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Albert Bandura and Ellen G. White: a Comparative Study of Their Concepts of Behavior Modification through Modeling

Miriam S. Tumangday
Andrews University

Andrews University

School of Graduate Studies

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A Dissertation

Presented in Partial Fulfillment

of the Requirements for the Degree

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APPROVAL OF COMMITTEE:

Ruth Murdoch
Chairperson: Ruth Murdoch

July 7 1977
Date Approved

George H. Akers
Committee member: George Akers

Mercedes Dyer
Committee member: Mercedes Dyer

Edith Stone
Committee member: Edith Stone

Robert M. Johnston
Committee member: Robert Johnston

Humberto M. Raci
Dean, School of Graduate Studies

ABSTRACT

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Chairperson: Ruth Murdoch

ABSTRACT OF GRADUATE STUDENT RESEARCH

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Title: ALBERT BANDURA AND ELLEN G. WHITE: A COMPARATIVE STUDY OF THEIR CONCEPTS OF BEHAVIOR MODIFICATION THROUGH MODELING

Name of researcher: Miriam S. Tumangday

Name and title of faculty adviser: Ruth Murdoch, Ed.D.

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Problem

One of the major concerns in education today is the improvement of behavior. Over the years various strategies have been proposed to modify human conduct. A careful review of these theories shows many similarities and divergences. Albert Bandura and Ellen G. White, two proponents from different eras and with widely disparate cultural and intellectual heritage, have strongly recommended modeling or example as the major factor in shaping human behavior. The present study sought to determine what, if any, similarities or differences exist in their modeling concepts.

Procedure

This investigation is a descriptive analytical study concerned with concepts and philosophies. The general procedure of the study is conceptually oriented, moving from a broad overview of behavior modification toward basic conceptual aspects of modeling.

After an introduction and a review of literature, two chapters provide the reader with necessary background material. Bandura's conceptual framework and experimental studies are discussed in the next two chapters. Then follows a synthesis of White's philosophy of example. Chapter VIII concentrates on the comparison, with ten concepts in Bandura's writings and experiments as the frame of reference. Chapter IX reports the writer's interview with Bandura. The summary, conclusions, and implications of the study are presented in the last chapter.

Summary and Conclusions

The modeling positions of Bandura and White are based on entirely different frames of reference. They bring to their writings divergent approaches, purposes, and values, and non-corresponding philosophical orientations of human nature and reality. Significantly, in spite of these differences, Bandura's modeling concepts were found to corroborate the much earlier views of White. Commonalities exist in the following concepts:

1. Behavior is learned by observing the behavior of other human beings.

2. Real-life models are the basic sources of modeling influences.

3. Modeling is a potent means of behavior transmission and modification.

4. Modeling involves different complex variables originating in the observer and the model.

5. Words and deeds do not possess equal power for changing behavior.

6. Children's behavior results from an interaction of parental modeling and other models in the immediate environment.

7. Parents establish conditions for learning and value acquisition of children during the children's early years.

8. Children are receptive and vulnerable to shaping influences in their environment.

9. Children's learning is facilitated and increased in a warm and supportive atmosphere.

10. Symbolic models are nearly equal to real-life models in effecting behavioral patterns.

11. Aggressive responses result from dangerous thoughts generated by exposure to aggressive symbolic models and generalize to new settings.

12. Some human models are more imitated than others because of their position, competencies, and responsibilities.

13. People choose as models associates with similar values and conduct patterns to themselves.

14. Reference-group models are sources of attitudes and values which are imparted by example.

15. Reinforcement is facilitative, motivating, response-strengthening, and informative.

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CHAPTER I

THE PROBLEM

Introduction

The dream of a more noble and humane world through man expressing his positive potential in behavior has been an ancient as well as a modern hope (Deahl, 1900; Maslow, 1972). Attempts to alter the course of human behavior effectively, both individually and collectively, have expressed this vision eloquently (Bradfield, 1970; Sherman, 1973).

Pointing out the relentless strivings of man to improve human conduct on a broad scale, Aldous Huxley (1962), English novelist and critic, appropriately comments:

> In the course of the last three thousand years how many sermons have been preached, how many homilies delivered and commands roared out, how many promises of heaven and threats of hell-fire solemnly pronounced, how many good-conduct prizes awarded and how many childish buttocks lacerated with whips and canes? And what has the result of all this incalculable sum of moralistic works, and of the rewards and savage punishment by which the verbiage has been accompanied? The result has been history--the successive generations of human beings comporting themselves virtuously and rationally enough for the race to survive, but badly enough and madly enough for it to be unceasingly in trouble. Can we do better in the future than we are doing today, or than our fathers did in the past? (p. 291)

However, it is often felt that the control or direction of human behavior is beyond the ability of the individual. This common lament is aptly couched by the apostle Paul in his familiar admission: "I can will what is right, but I cannot do it. For I

do not do the good I want, but the evil I do not want is what I do" (Rom 7:18-19, RSV). Hilts (1974) echoes a similar limitation as he describes a provocative paradox:

> Our ears are huge: we can hear words spoken anywhere on earth, and beyond; we can hear voices and sounds from the past. Our eyes are great telescopes and tiny watchers among atoms; we can see the faces of dead men smile; we watch long-disappeared feats untold again and again. Our hands are massive machines: we can kill a man at one hundred yards; we can curse a city at any distance; we can tickle minute microbes. . . . We have tools for every area of life from brushing teeth to controlling fertility. . . . But there is one sacred area, one blind spot, in which we have made no tools more effective than those used by Plato two thousand years ago. . . .
>
> The sacred, undeveloped area is human behavior. Psychology in the past one hundred years has wrestled with behavior, searching for rules that might be useful. . . . But these designs have been no help when we have tried to change or control behavior. (pp. ix-x)

In spite of this fact, society today places a premium on appropriate behavior. One of the major concerns in present-day America deals with the modification of social and emotional behavior (Clarizio, Craig, & Mehrens, 1974). Many psychologists around the country are presently engaged in the study of alternative strategies for encouraging, inhibiting, or altering certain behavioral patterns of people in businesses, prisons, homes, schools, and other institutions.

Over many years various proponents have suggested different strategies for improving human conduct. Among these could be cited Thorndike's conditioning (1932), Skinner's behavior modification (1953), and Kohlberg's moral and cognitive development (1971). A careful review of these theories shows many differences and similarities. The central focus of this debate is to determine which approach to behavioral change is most effective.

Two proponents from different eras and with widely disparate backgrounds have strongly recommended modeling or example as the major factor in shaping human behavior. These are Ellen G. White and Albert Bandura (see appendix for photographs). However, despite the striking divergences in their cultural and intellectual milieus, there is prima facie evidence that an essentially significant similarity exists between their positions on behavior modification, particularly in their concepts of modeling.

Statement of the Problem

Ellen G. White is generally accepted by Seventh-day Adventists as a divinely-appointed messenger to the church on which she exerted the most powerful single influence (Notable American Women, 1971; Pierson, 1973). Greater confidence in her teachings is established when present-day events prove their truthfulness.

Attention has been called to the fact that many of her viewpoints and concerns are far in advance of her time and need no deletion nor modification to suit changing periods (Noorbergen, 1974). Recent publications contain research support for the validity of some of her statements on many vital areas of counsel, especially on education and health (Ellen G. White Estate, 1971). However, as far as can be ascertained, nothing has as yet been written on behavior modification through modeling as articulated in her works.

Albert Bandura, a psychology professor at Stanford University and a renowned researcher and author, is recognized today as the chief proponent of modeling (Krasner & Ullmann, 1965; MacMillan, 1973; Kleinmuntz, 1974). His theoretical formulations and the

numerous experiments he performed to examine the nature of modeling and its controlling variables have provided the impetus for renewed and increasing attention to this behavior-modification strategy.

The main task of this study is to compare the concepts of this modern author whose work is having considerable impact on applied behavior modification with those of a much earlier writer who has exerted a similar remarkable influence, especially on an international organization.

Purpose of the Study

This investigation seeks to determine what, if any, similarities or differences exist in the behavior modification concepts of Bandura and White. Specifically, it examines only their views on modeling.

The modeling concept employed here refers to the techniques or methods of instruction that rely on examples of persons or their symbols to perform the desired responses to transmit or modify behavior.

Basic to the main purpose of this study are two subproblems: (1) the examination of behavior modification concepts through modeling procedures as scientifically verified by Bandura, and (2) the synthesis of White's modeling viewpoint which places her in a psychologist perspective within the Seventh-day Adventist Church and with other social psychologists.

To determine the solution of the subproblems, the answers to the following questions were sought:

1. What is behavior modification?

2. What is the background of the authors chosen for comparison?
3. What is the framework of Bandura's modeling viewpoint?
4. What concepts are substantiated by the experiments which Bandura has performed?
5. What is the framework of White's viewpoint on modeling or example?
6. On what points do Bandura and White agree? On what points do they differ?
7. In the light of this comparison, what implications does modeling have for Seventh-day Adventist education and for educators outside the Adventist system?

Significance of the Study

Through the decades many theories have been proposed to explain the modeling process. At the present time it appears that the ability to imitate is learned, perhaps through the reinforcement of imitative responses (Schwitzgebel & Kolb, 1974). Thus, observational learning or modeling can be a very rapid and efficient method of learning (Biehler, 1974; Minich, 1974; Blair, Jones & Simpson, 1975).

The use of observational or modeling procedures seems to be a very important factor in the learning of social roles and in treating behavior disorders (Baer, Peterson & Sherman, 1967, Debus, 1970; Fox, 1972; DiCaprio, 1974). While their use to facilitate prosocial behaviors has not been extensively studied, there is increasing consensus that prosocial models in natural settings, such as homes and classrooms, can help solve social and emotional problems and provide

constructive direction for general social development (Lamal, 1970; Sarason & Sarason, 1973; Hartjen, 1974; Theroux, 1974; Bernard, 1975).

Teachers and students of learning theory, and those concerned specifically with improving behavior, might find this study helpful because it integrates Bandura's modeling concerns and research in a single volume. Also, it would seem that a perusal of some work such as this might help clarify questions regarding the modeling approach.

This investigation should be of interest to Seventh-day Adventist educators who have studied Bandura's psychological concepts and scientific findings and have recognized a similarity to White's philosophy of behavior development. The scientific substantiation of her viewpoints on various procedures, especially in educational practice, should provide methods based on both theory and research.

When procedures recommended by early writers are verified by recent research, the results should be of significance to all who are concerned with improving human behavior--psychologists, sociologists, parents, and educators.

Definition of Terms

To assure a thorough understanding of the study, certain terms frequently used are here defined:

Concept. Good (1973) defines concept as (1) an idea or representation of the common element or attribute by which classes or groups may be distinguished; (2) any general or abstract intellectual representation of a situation, state of affairs, or object;

or (3) an opinion, an idea, or a mental image. The last two of these alternatives denote the usage of the term in this study.

Behavior modification. Behavior modification refers to the systematic application of psychological principles in order to change behavior in desired directions.

Modeling. Modeling is the process by which responses are acquired through observing the behavior of someone else, called the model. It also refers to the techniques or methods of instruction that rely on examples of persons to perform the desired responses to transmit or modify behavior. Diverse terms applied to modeling include imitation, observational learning, matching behavior, identification, no-trial learning, copying, social facilitation, contagion, and role-taking (Bandura, 1971a). These labels are interchangeably used in this research.

Symbolic models. Symbolic models, as distinguished from human or real-life models, are verbal or pictorial devices or a combination of both that serve as examples to alter behavior.

Limitations

The limitations of this research are of two types: (1) subject matter and (2) sources used.

Discussion of the subject matter is held to the scope of modeling as viewed and presented by Bandura and White. This dissertation is therefore not a study or analysis of modeling per se. Neither is it an attempt to test its validity nor to critique literature related to the field.

Although both authors take certain positions on other

subjects, no attempt is made to compare their ideas on those topics. Furthermore, this investigation is not concerned with the controversial issues related to modeling phenomena that have been debated by various psychologists through the centuries.

The study of the sources is confined to those that have been published, as there was no possibility of engaging the two authors in a dialogue. Bandura's concepts expressed in his books and articles, and those of White's contained in sixteen of her major works (see pp. 214-16) selected for this purpose constitute the basic materials for this dissertation.

While the use of additional E. G. White books might seem advisable, it has to be recognized that there is a great deal of duplication in her writings. The most that could be expected from an expansion of such sources would be confirmation or possible amplification of concepts expressed in the chosen volumes. For this reason, the limitation would seem to be justified.

The data from the published works of these two writers are philosophical and, therefore, not suitable for statistical comparison.

Basic Assumptions

It is assumed that Bandura and White have expressed their positions fully enough in their writings to provide a basis for the solution of the problem and the subproblems.

It is further assumed that the concepts held and verified by the chief modeling proponent of modern times are adequate to constitute a frame of reference for comparison.

Materials and Methods

This investigation is a descriptive analytical study concerned with concepts and philosophies. The general procedure of the study is conceptually oriented, moving from a broad overview of behavior modification toward basic conceptual aspects of modeling.

Survey of Sources

A careful examination of standard sources was done in order to determine the availability of contemporary material relevant to the methodology or to the topic itself. The sources examined were: Dissertation Abstracts International Retrospective Index, Education, 1970; Dissertation Abstracts International Index, June 1970-June 1973; Dissertation Abstracts International, July 1973-December 1975; Psychological Abstracts, 1968-1975; and Current Index to Journals in Education, January 1970-December 1975.

This procedure verified the assumption that no published and recorded work in this area of comparison has as yet been undertaken. The response to an inquiry to the Ellen G. White Publications, Washington, D.C., further confirmed the assumption.

It was recognized, however, that a more up-to-date source reference was needed, as modeling has been the subject of a burgeoning body of research in very recent years (Venn & Short, 1973; Belcher, 1975). Under the descriptors suggested--Albert Bandura, psychological modeling and observational learning--a "medline" search at Loma Linda University and an ERIC search by System Development Corporation were performed for this specific purpose. The ninety-eight citations generated, covering the last five years, were

extremely useful in the study of aspects relating to Bandura and the current status of modeling.

The three-volume Comprehensive Index to the E. G. White Writings of 3,216 pages was the starting point in the search for sources yielding White's statements on modeling or example. Twenty-two headings were employed as guides in this initial exploration (see p. 12) . In addition, the separate indexes of White's major books were examined for entries under similar headings. This preliminary survey gave valuable direction to the choice of White's sixteen volumes used in this study.

The reading of the related literature was an important part of this introductory study. During this time a major portion of the bibliography was assembled.

The Collection of the Main Data

There were three principal phases in the collection of the main data: (1) a background study of behavior modification and modeling, (2) a detailed study of Bandura, and (3) a study of White's philosophy of behavior change through modeling or example.

The background study

It was felt that some background knowledge of the broad field of behavior modification was necessary in order to understand the emergence and role of modeling as a major strategy of behavior change.

Notes on the development and proponents of behavior modification, and on the critique of and research on modeling influences, were taken in the process of examining books, periodicals, and other

scholarly publications devoted either in whole or in part to these considerations.

The extensive contemporary literature on these topics necessitated a selection of only those works which were directly contributory to and shed light on the positions taken by the authors compared.

The study of Bandura

From the historical study of behavior modification and an examination of current modeling research, the focus shifted to Bandura whose concepts were to constitute the frame of reference for comparison with those of White.

Bandura was studied first in secondary sources, such as books on psychology, personality, counseling, and character development; educational research documents, psychological and dissertation abstracts, and periodical articles. The notes--those bearing on Bandura's approach and his contribution to psychology--that were taken from these were especially helpful in illuminating his theoretical framework, his experiments, and the views they corroborate.

A search was made for material concerning Bandura's life and background. In response to a personal letter (see appendix), Bandura suggested a review of the article by Kiester and Cudhea (1974). This interview material was the chief source in the area of the psychologist's life and personality.

Bandura's published works--six books, approximately thirty research reports, addresses, and a number of periodical and book articles--dealing with modeling or some of its aspects provided

data deemed adequate for a definitive study of his viewpoints on the topic. However, the writer's telephone interview with the modeling proponent capped the endeavor to obtain answers to questions which emerged from the study of his works.

The study of White's philosophy

A wealth of documentary material on the life and thinking of Ellen White has been preserved in her immense literary corpus of seven decades. These writings, sixty-three books in all, may be grouped in eight categories: Bible biographies, Christian life and experiences, instruction in Christian service, daily devotional guides, education in home and school, history and prophecy, health and medical, and autobiographies.

Thirty-five of these books were written before her death; the rest have been published since her death. These posthumous publications are topical compilations of periodical articles, unpublished manuscripts, and abridgments of larger books.

As has been mentioned, sixteen of White's major works constitute the basic sources for the study of her behavioral philosophy. The examination of the indexes suggested that these selected titles would be most useful for this research, as they contain abundant material reflecting her views on modeling or example.

The twenty-two key words used in the search for relevant statements in these sources were: association, behavior, beholding, conduct, copy, demeanor, demonstrate, deportment, emulation, example, imitation, influence, like, likeness, look, manners, model, observation, pattern, seeing, sight, and social power. These headings

yielded more than a thousand passages bearing on concepts of modeling. No entries were found for other words synonymous to psychological modeling, such as contagion, identification, incorporation, internalization, introjection, matching, and representation.

Passages related to the problem were carefully studied and copied in the process. Although a good deal of duplication was noted, such repetition of material underscored the value and role of models in certain areas. The books chosen were then scanned chapter by chapter, and pertinent quotations not copied previously were taken down. As expected, very little new material was found.

After this study, the notes were organized into topics based on their key thoughts. This new arrangement included the following headings: power of example, components of influence, dichotomy of example, accountability, sources of coping models--peers and associates, parents and siblings, significant adults, Bible characters--symbolic models, essential variables, the perfect Model, and development of a sanctified influence. The quotations and passages were once more studied, and from this topical study a synthesis of White's behavioral philosophy, especially on example, emerged.

Treatment of Data

Just as there were two types of sources, there were two phases in the treatment of data from these sources: (1) results from the study of secondary sources and (2) results from the study of primary sources.

From the secondary sources

The outcome of the study made of behavior modification was

deemed of sufficient importance to form a separate chapter. The data serve as the backdrop of the problem under investigation and are the main content of chapter III.

Portions of the results are also included in chapter V as key material necessary for a background understanding of the emergence and current status of modeling.

The data from the examination of modeling research were utilized as a part of the solution to the subproblems answered by chapters V and VI.

From the primary sources

After a careful examination of the works of Bandura and White, a card file was set up with divisions, each headed by a concept emerging from Bandura's works. As stated earlier, Bandura's concepts formed the frame of reference for White's viewpoints. Each division was then subdivided into two sections headed by two names--Bandura and White.

The procedure of comparison followed was that of correspondence and contrast, which required that Bandura's concept be presented first and then matched by corresponding White views. White's concepts in correspondence with those of Bandura's were properly notated in blue; those in contrast, in red.

Points of agreement and differences; stress and consistency in key thoughts; relevancy to the times, scope, and depth of treatment; and educational implications were particularly noted.

Organization of the Study

This comparative study includes ten chapter divisions.

Chapter I introduces the problem and states the purpose and significance of the present work. Also included here are the materials and methods used in the investigation.

Chapter II is devoted to a review of literature related to the problem.

Four chapters designed to provide the reader with necessary background material are a prelude to the comparison which is the main task of this dissertation.

Chapter III deals with the history and meaning of behavior modification.

Chapter IV presents the two authors chosen for comparison, with a brief biographical vignette of each.

Chapter V starts with a theoretical overview of modeling processes. The emphasis then shifts to the discussion of Bandura's conceptual framework--his approach, the modeling rationale, subprocesses, and other basic constructs.

Chapter VI is an integration of Bandura's research projects and his modeling viewpoints which they support. Twenty-five laboratory and field studies are chronologically summarized in this chapter.

Chapter VII brings together White's teachings on modeling or example. This is a synthesis of her philosophy of behavioral change, with special focus on the role and power of example.

Chapter VIII concentrates on the comparison--on the two

author's points of commonality and differences, on their emphases and priorities.

Chapter IX reports the author's telephone interview with Bandura. This represents an effort to obtain answers directly from the modeling proponent to questions generated by the study of his published works.

Chapter X is a recapitulation of the findings, as well as an overall impression of the author's philosophies. Implications for the home, for the school, for the Seventh-day Adventist Church, for media sources, and ideas for further investigations conclude this chapter and the study.

CHAPTER II

REVIEW OF RELATED LITERATURE

The vigorous growth of research on observational learning over the past decade has already been mentioned. It is therefore not surprising to find several types of documents on different aspects of this topic.

For this reason, a selective approach to the review of related literature seemed necessary. This chapter presents a brief summary of (1) general reviews of studies on observational learning, (2) literature concerned with sources of modeling influences, (3) literature discussing the role of modeling in various contexts, and (4) investigations bearing on variables or contingencies affecting modeling performance.

Extensive material was found on behavior modification, so it seemed advisable to devote a separate chapter to its consideration.

General Reviews of Studies

Studies of imitation appear in many different research areas of social psychology. These research traditions include those associated with persuasive communication, collective behavior, suggestibility, social learning, and leadership.

Flanders' review (1968) includes studies in these fields but limits itself to those on imitation in the dyad. It concerns causal relations between the model's behavior and the observer's imitation

of the model's behavior. Experiments investigating these relationships are evaluated. That Bandura's imitation viewpoint is best able to cope with existing experimental evidences is one of the important findings of this work.

Imitation research has also been the subject of two earlier reviews (Mowrer, 1960: Bandura & Walters, 1963). Each presents a theoretical viewpoint and cites research to back up the espoused viewpoint. These analyses have limited coverage of imitation studies.

A critical issue in the field of modeling concerns children's language acquisition (Whitehurst, Ironsmith & Goldfein, 1974). In a review of the literature related to this topic, Whitehurst and Vasta (1973) summarize several studies in which children have been shown to imitate systematic subsets of the speech modeled for them. The phenomenon of selective imitation (Whitehurst & Novak, 1973), which is the imitation of the syntax, not the content, of the model's utterances (Harris & Hassemer, 1972) is the main focus of this study. This topic is further discussed in a subsequent section of this chapter.

Three other major reviews in the 1970s are worthy of note. Akamatsu and Thelen (1974) have surveyed the literature on observer characteristics and imitation. Although it is admitted that certain observer characteristics do facilitate or impede imitation, the need for further research to clarify the relationships between still unassessed observer characteristics and imitation theories is strongly recommended.

Current modeling research that supports basic elements of

social learning theory and its effects on overt behavior have been reviewed by Dolly and Ellett (1974). This is an attempt to conceptualize areas of contradiction between social learning theory and phenomenological theory.

The potential scope of modeling is well indicated in the review of observational learning research involving human models. Zimmerman and Rosenthal (1974a) have summarized reports conforming to such stipulation. They have also discussed their implications in regard to Bandura's theoretical framework. This review is perhaps the first to address the issues of complex linguistic rules, concepts, abstract principles, or problem solving in relation to observational learning.

Sources of Modeling Influences

The related literature indicates that models can be (1) adults--parents, teachers, or leaders in relevant fields; (2) peer group, and (3) symbolic or representational models--models presented through television, films, the printed page or verbalization, and other audio-visual means.

Adults

Perhaps the pioneer field study on aggression by Bandura and Walters (1959) could be considered the first monumental work on adult modeling. The effects of aggressive parental example were reflected in the children's social behavior. The boys with aggressive parents expressed more physical and verbal aggression toward their peers, more oppositional behavior toward their teachers, and less inhibition of aggression than did the boys with inhibited parents.

In a later experiment the same researchers (Bandura & Walters, 1960) found that not only the tendency to be aggressive but also the technique for being so was learned from parents. Children who lived with aggressive adults, even when provision was made for their childish aggressiveness, become aggressive.

The influential role of modeling in shaping children's reactions is well documented in countless studies showing that behavior patterns are often transmitted through familial modeling (McCord & McCord, 1958; Schachter & Singer, 1962; Mallick & McCandless, 1966; Scott, Burton & Yarrow, 1967; Bernard, 1975).

The importance of parental patterns of behavior for shaping personality was also noted by Mussen, Conger, and Kagan (1969). Kleinmuntz (1974) emphasizes that "overall parental attitudes are more important than specific child-rearing techniques in determining the personality development of offspring" (p. 358).

Peck and Havighurst (1967), well known for their research on the moral character of adolescents, underscore the modeling role of parents in these words:

> When father and mother agree, the crucial question once more becomes what kind of morality they show in their day-to-day treatment of their children. It is probably secondary, relatively speaking, what kind of morality they exhibit outside the home, insofar as their direct influence on the child is concerned. It is the way the child is directly treated by his parents which largely determines how he will treat other people in later life. In short, the child "does what we do, not what we say." (p. 123)

Children learn their fears and how to handle these fears, at least in part, from adults. The habit of being courteous and thus setting the scene for developing sympathy and other prosocial acts is learned by example and practice (Bernard, 1975).

Young pupils, especially, identify with parents and teachers, and they do what they see other significant adults do (Biehler, 1974). Perhaps this is why girls get off to a better start in school than boys. Girls seem to find it natural to identify with and imitate the female teachers they encounter when they enter school, and boys do not.

Bergin (1970) calls attention to the awesome role of the teacher as a model when he says:

> It seems clear enough that most teachers possess many of the qualities characteristic of models who obtain the highest levels of imitative behavior in experiments on observations or vicarious learning. . . . It is now empirically evident that even if teachers prefer to confine their work to academic competencies alone, they cannot. Their very humanness makes them social agents for good or ill whether they like it or believe it or not. (from Davitz & Ball, eds., 1970, pp. 381-82)

Although some authorities stress the distinctiveness of adolescent subculture (Coleman, 1961; Bernard, 1975), the term does not necessarily mean that the young as a group differ widely from their adult generation. Bealer, Willits, and Maida (1969) assert that the affiliation of the youth with the older generation is shown in numerous studies to be statistically stronger than the response to peer values. In terms of percent most young people follow the basic behaviors and values of the adult population (Hansen & Paulson, 1972).

Coleman (1972) places the influences on real-life models in perspective when he says that adolescent learning depends primarily on parents, next on peers, and then on the influence of teachers. This assertion is based on the findings of his research on class integration.

It might be interesting at this point to briefly mention a few studies discussing the peer-versus-adult question. Hicks (1965) exposed preschool boys and girls to either a peer or an adult film model who exhibited several aggressive behaviors. After six months, the children who had observed the male adult model showed slightly more aggression than those who had observed the male peer.

Similar results were obtained in two other studies. Hyman (1959), in his investigation of political party preferences, found that parental attitudes were more predictive of such behaviors than those of peers. In an examination of nine-year-old boys' suggestibility, Jakubczak and Walters (1964) found adult models to be generally more potent sources of influences than peers.

On the other hand, peers seem to be more influential models than parents in some cases. By means of a structured interview, Cohen (1971) examined the effects of peers, parents, and teachers on the development of aggression in elementary school children. He concluded that peers were the most important models in the development of this behavior.

Vandiver (1972) found peers to be preferred models in sexual attitudes. Kandel (1973) reported the peer group to be more imitated than their parents by teen-agers in the use of psychoactive drugs.

Hartup and Lougee (1975) surveyed the literature relating to peer models. In an attempt to provide a balanced picture of these so-called cross-pressures, they explain:

> . . . either peers or adults may be preferred as models, depending on the situation. . . . Children expect to imitate whichever model is a member of the appropriate reference group. Peers, for example, may constitute such a group for marijuana smoking, while parents may be considered more appropriate referents for

> voting behavior. Thus, children are not generally disposed to imitate adults more readily than peers (or vice versa) but choose models differentially according to situational demands. (p. 19)

At any rate, while these cross-pressures involve much more than modeling, parents, peers, and other significant adults are without doubt powerful sources of modeling influences.

Peer Group

As models, peers have a strong and diverse potential for effecting behavior change in others in their group. Evidence suggests that the socialization of aggression, sex-role learning, and the internalization of moral values are mostly traceable to children's imitation of age-mate behavior (Hartup & Lougee, 1975).

Perry, Bussey, and Perry (1975) evaluated the independent contribution of four variables affecting children's resistance to deviation. The results support the hypothesis that resistance to deviation in children can be increased through exposure to a resisting model.

The simple demonstration of a prosocial act is sufficient to transmit this norm to preschoolers. The subjects who were exposed to generous children, as contrasted to those who did not observe a model, exhibited significantly more sharing (Hartup & Coates, 1967; Elliott & Vasta, 1970).

Opinions have differed regarding the efficacy of the medium through which children are exposed to peer models. Wolfe and Cheyne (1972) studied the behavior of boys who were exposed either to a live model who conformed or deviated from a prohibition rule, to a televised model, or to a live model who simply described his behavior

without enacting his position regarding his prohibition. The results suggest that the model who actually displayed conforming behavior is the most effective, while the verbalizing model is the least effective. Effects of similar exposure to peer models are reported in studies by Lepper (1975) and Botvin and Murray (1975).

The utility of peer modeling in learning situations is demonstrated in a study by Horan, de Girolno, Hill, and Shute (1974). Their data show that academically deficient students have made substantial improvement in most areas after having peer models as tutors.

Talkington, Hall, and Altman (1973) suggest a similar conclusion after their study of severely retarded institutionalized children. The modeling group has gained significantly greater change scores on a language development test than the directly trained and control groups.

Through exposure to peer models, other types of behavior may also be effected. Sexual learning may be promoted (Kobasigawa, 1968); emotional behavior may be influenced (Bandura, Grusec & Menlove, 1967; Bandura & Menlove, 1968); problem-solving performance may be modified (Debus, 1970; Ridberg, Parke & Herrington, 1971); and appropriate experimental procedures may be taught (Deture & Koran, 1975).

Symbolic or Representational Models

There is abundant evidence that symbolic models are effective means of transmitting novel responses, especially to children (Hicks, 1965; Bandura, 1969; Bryan & Schwartz, 1971). The media provide social models in the form of entertainment characters whose actions,

words, and even demeanor are observed and absorbed by media users. The newest medium is television (Liebert, 1975).

Investigations before the advent of television had already shown that comic strips, movies, and radio plays could significantly alter the behavior of the young who were exposed to them (Peterson, Thurstone, Shuttleworth, & May, 1933; Zajonc, 1954). Today, however, these forms of entertainment occupy a relatively minor place in the lives of children. Television, which reaches ninety-nine percent of all American homes, has pervaded virtually everyone's life to a remarkable degree (Liebert, Neale & Davidson, 1973). A few representative studies bearing on its relation to modeling will now be briefly mentioned.

Steuer, Applefield, and Smith (1971) showed that exposure to examples of aggressive behavior, directly taken from broadcast television, does increase aggressiveness in viewers through the entire age span from early childhood to late adolescence.

Sex, race, and occupational models are also available on television. They provide information which may be as important as the portrayal of violence. After interviewing three hundred white elementary school children from urban, suburban, and rural areas, Greenberg (1972) reported that 40 percent of them learned about how blacks look, talk, or dress from television. In testing two hundred children on their knowledge of various jobs, DeFleur and DeFleur (1967) concluded that television was a more potent source of occupational knowledge than either individual contact or the community. A positive correlation between youngsters' overall exposure to television and the strength of their sex-role identification was

found by Frueh and McGhee (1975).

A wide gamut of prosocial behaviors, such as increased social interaction with peers (O'Connor, 1969), helping (Sprafkin, Liebert & Poulos, 1975), and delay of gratification (Yates, 1974) have been effectively modeled through television.

The general efficacy of film-mediated and videotaped models in promoting learning and social facilitation are indicated in the following studies: influencing women's achievement behavior (Bonz, 1975); improving verbal behaviors of student teachers (Phillips, 1972; Priester, 1974); developing social skills in preschool children (Keller & Carlson, 1974); improving cognitive skills (Salomon, 1974); encouraging creativity (Arem, 1974): prompting scientific process activities (Deture & Koran, 1974); teaching classroom procedures (Koran, Snow & McDonald, 1971); inducing positive emotional responses (Venn & Short, 1973); and increasing verbal originality (Belcher, 1975).

The Role of Modeling in Various Contexts

The process of observational learning has been demonstrated for different behaviors. Research shows that modeling is involved in an increasing variety of contexts, such as (1) promotion of learning, (2) classroom setting, (3) language acquisition, (4) concepts and rule attainment, and (5) counseling and psychotherapy.

Promotion of Learning

That witnessing models perform prosocial behavior results in positive behavior is well supported by the studies mentioned in the preceding section. Besides enhancing prosocial behavior, modeling

promotes the learning of specific values.

Rosenhan and White (1967) report a significant gain in the charitable behavior of fourth and fifth graders after their exposure to an adult model. The model played a game in which, upon winning, he donated some of his winnings to charity.

A similar finding was obtained in a study (White, G. 1967) on the power of coercive instructions and modeling behavior. The subjects who had observed a model make a donation and were given the opportunity to do the same themselves exhibited more charitable behavior than those who had been instructed to donate or who simply played the game. Bryan (1969) confirms this view in his study of children who participated in a miniature bowling game. The group who witnessed altruistic models increased in their altruistic behavior.

Perry (1972) notes the effectiveness of modeling and direct reinforcement in influencing the generous behavior of children. Theroux (1974) brings out the usefulness of the modeling technique in encouraging cooperation. One hundred and ninety-two kindergarteners helped in rolling out a large painting and mounting it on the wall with masking tape after their exposure to fourth-grade models who did a similar task.

Observational learning procedures have also been found potent in teaching empathy to student teachers (Cyplers, 1973), to counselors for the deaf (Yoakley, 1972), and in facilitating sharing behavior (Bryan & Lond, 1970; Poulos & Liebert, 1972; Canale, 1975).

Classroom Setting

The process of training student teachers' basic competencies involves the novice observing a seasoned teacher in the natural classroom setting. Hartjen (1974), headmaster of the Montessori School of Brooklyn, proposes the application of Bandura's theory of learning to the construction of a competency-based teacher education model. In this model student teachers, he says, learn to be discriminating in their observations of teacher models.

As an approach to motivate elementary pupils to indulge in more reading, modeling holds real promise. Sorensen, Schwenn, and Klausmeier (1969) urge teachers to keep in mind these motivational procedures:

> Modeling: doing such things as telling the child that he (the adult) reads frequently and likes to read; being engaged in reading when the child comes in for the conference and starting to read a book as the child leaves the conference. Modeling also includes such procedures as informing the child of the reading behavior of a possible model and indicating the value of independent reading to other persons who may serve as models for the child. (p. 351)

A variation of these procedures could be favorable comments on the way some students study. Such comments serve to indicate that these students are models for studying behavior (Poteet, 1973).

Sarason and Sarason (1973) believe that modeling procedures are relevant to pressing problems in the classroom and can be used for the benefit of students. They caution, however, that a basic responsibility in the technique is needed, as "it can have powerful impacts . . . that . . . can be either for good or ill" (p. i).

It must also be remembered that the symbolic or representational models in the classroom, such as teacher-made ditto sheets,

work books, teacher lectures and directions, may modify student behavior (Poteet, 1973).

Modeling also influences children's creative behavior in the classroom. Significant increases have been noted in both quantity and quality of children's divergent verbal productions after their exposure to models (Belcher, 1973; Zimmerman & Dialessi, 1973; Belcher, 1975). And although the outcome may not be as exciting, modeling has a definite place in teaching retardates and other similarly disadvantaged groups (Forehand & Calhoun, 1973).

Language Acquisition

Although empirical findings are inconclusive on the question of processes responsible for language acquisition, there is general agreement that modeling is one of the key factors in the generative production of new linguistic forms in young children (Whitehurst, Ironsmith, & Goldfein, 1974).

Both modeling and imitation training have been found effective in eliciting imitation of utterances (Whitehurst & Novak, 1973). In modeling an adult uses utterances containing the target grammatical structures to describe a set of pictures. The child is exposed to modeling without being asked to describe the pictures. In responding to a second set of materials for which no exemplar has been provided, the child is observed to selectively imitate. The child uses the linguistic structure previously used by the model in describing the first set of pictures, but the child describes the content appropriate to the new material. Thus, every time a parent uses linguistic structures in the presence of a child, he is

engaging in modeling. In imitation training, in addition to responding to the new material, the subject is reinforced for directly imitating the model describing the first set of pictures.

Guess, Sailor, Rutherford, and Baer (1968) employed nonsense syllables and novel semantic arrays and used imitation training to produce acquisition of the plural morpheme by a retarded girl. Whitehurst (1972) used a similar procedure to teach 24-month-old children to construct novel but appropriate adjective-noun phrases.

A number of other studies using retardates and a variety of sentence structures demonstrate the effectiveness of imitation training in language acquisition (Shumaker & Sherman, 1970; Wheeler & Sulzer, 1970; Clark, Sherman & Kelly, 1971; Carroll, Rosenthal & Brysh, 1972).

A similar procedure to imitation training observed to be used by parents in the normal environment of language acquisition is what some researchers call expansion (Brown, Cazden & Bellugi, 1969; Slobin, 1968). Parents correct a child's incomplete or ungrammatical utterances by following these utterances with a model of correct usage. The child is often observed to imitate the modeled correction (Slobin, 1968).

The potential of modeling as a procedure in producing imitation of linguistic structures is further supported by other studies, such as those by Rosenthal and Whitebook (1970); Rosenthal, Zimmerman, and Durning (1970); and Harris and Hassemer (1972). Indeed, as Minich (1974) says, modeling deserves attention as an exportable teaching mode. Her study of second- and third-grade children indicates that both adult and peer modeling facilitate the

production of complicated utterances.

However, it must be emphasized that language development involves processes other than modeling and selective imitation. Whitehurst and his associates (1973) aptly conclude:

> . . . a full account of language development must have at its core a consideration of the frequency with which models use language that displays particular characteristics, the context in which that language is modeled, and the situations in which the observing child is encouraged to respond. (p. 301)

Concept and Rule Attainment

In a variety of studies, modeling has proven successful in teaching children abstract principles.

Rosenthal, Moore, Dorfman, and Nelson (1970) found that observing a model exemplify a simple equivalence concept led young children to adapt the exemplar's rule governing her placements of marbles. The children, with near zero baseline scores, transferred the rule to novel stimulus arrangements.

Using the same task with severely retarded adolescents and young adults, Rosenthal and Kellogg (1973) found that observation of a live model produced better performance than did verbal information.

Alford (1973) studied the effects of verbal coding and modeling display differences on the vicarious acquisition of a novel, conceptually guided behavior of 132 second-graders. While the control group maintained zero scores across all phases, all modeling groups displayed significant increments in correct responses. Similar results were reported in a study (Alford & Rosenthal, 1973) using a clustering task never correctly performed in baseline.

An earlier study (Rosenthal, Alford & Rasp, 1972) showed

that, with verbalization and coding, observing a model's performance could facilitate the learning, generalization, and retention of a novel clustering concept. The concept was entirely unavailable to young subjects before training.

The roles of verbalization and modeling in the acquisition of a novel rule with clocklike stimuli were studied by Zimmerman and Rosenthal (1972). Observationally induced concepts, even when unsupported by verbal-rule provision, were retained over extended time intervals.

Zimmerman and Bell (1972) compared children's learning of clock-spool conjunctions in different patterns. They found that children who observed the abstract rule relation displayed better generalization and retention than those for whom the conjunctions were random and discrete.

Modeling procedures have also been employed in teaching Piagetian conservation responses to young children (Goldschmid & Bentler, 1968; Rosenthal & Zimmerman, 1972).

Laughlin, Moss, and Miller (1969) studied the effects of a model's question-asking strategy as related to the subsequent problem-solving style of elementary school children. The strategy was based on a modified twenty-question game. Children who viewed the constraint-seeking model, who eliminated as many alternatives as possible, achieved correct problem solution. They also asked significantly fewer questions than the control-group subjects. Lamal (1971) replicated this experiment and obtained practically the same results.

Not only can general strategies or rules be acquired through

the observation of a model, but response predispositions, such as the speed of conceptual task performance, are also affected (Debus, 1970; Ridberg, Parke & Hetherington, 1971; Borden & White, 1973).

Counseling and Psychotherapy

Experiments in the field of counseling and psychotherapy have adapted many of the concepts and procedures from laboratory research on modeling to the consulting room. The objective is direct modification of client behavior patterns. Although the procedures are presently less developed than the theory-devised techniques, it has already become evident that they have great promise in such settings (Davitz & Ball, 1970).

Cook (1974) showed the value of differential modeling strategies in helping counselors master new and complex counseling skills. Persons who had little training in counseling received higher-than-average counselor performance scores following a training period using two modeling treatments.

In her article on social modeling, Miller (1972) points out various uses of modeling in counseling practices. She also suggests steps for designing a total counseling experience which incorporates social modeling.

Shaw (1974) demonstrated the effects of modeling in making significant changes in the level of occupational aspirations of ninth-grade girls. Krumboltz (1966) and other counselors found that the career information-seeking behavior of college students could be enhanced by tape-recorded models demonstrating effective information-seeking behavior.

Vocational education is perhaps of greatest value to people who are members of several large special groups. Vocational development is especially important to those who bear the stigma of inadequate socioeconomic opportunities and past misdeeds. Modeling and behavior rehearsal can help strengthen their ability to handle potentially traumatic situations, such as job interviews (Doster & McAllister, 1973; Fox, 1973; Sarason & Sarason, 1973). Laboratory experiments utilizing quasi-theory situations have also shown the value of modeling desired verbal behavior with the interpersonal interaction taking place (Brody, 1967; Wilder, 1967).

In one study (Stumphauzer, 1972) of young prisoners, the inmates were given the opportunity to observe older, prestigious peer models. The models chose between things they could have immediately or a more valuable reward which would be delayed. The prisoners whose models exhibited delayed gratification chose the more valuable rewards than did prisoners who did not observe a model.

Modeling may also be used in a number of behavior modification situations, usually in conjunction with some other techniques such as desensitization of fears and the so-called instigation therapies (Kleinmuntz, 1974). The latter involves patients learning to become their own therapists as a result of modeling themselves after some of their therapists' appropriate behaviors (Kanfer & Phillips, 1966). Examples are curing snake phobias among college females who observed male models handling snakes fearlessly (Geer & Turtletaub, 1967), and a modeling program for institutionalized juvenile offenders (Sarason, 1968; Sarason & Ganzer, 1969). These youth are provided with opportunities to identify with the socially

acceptable behaviors of older persons who accept them and whom they respect.

Investigations on Variables Affecting Modeling Performance

While the observational learning process is admittedly complex, imitative performance appears to depend on several factors (Aronfreed, 1969). For the purpose of this summary, the contingencies are classified into three broad categories: (1) characteristics of the model, (2) characteristics of the observer, and (3) task and reinforcement.

Characteristics of the Model

Research has identified the characteristics of models that affect the degree of observers' imitative behavior. There is considerable evidence that children interacting with warm, nurturant models imitate these models to a greater extent than they do models who treat them coldly (Joslin, Coates & McKown, 1973; Keller & Carlson, 1974).

An individual is often selected to be modeled simply because he has the power to provide or withhold reward. Such variables as perceived social power (Masters, 1975), competence (Kanareff & Lanzetta, 1960), and ability to control resources (Whiting, 1960) seem to result in an increased possibility of imitation. Friedman (1973) studied students' imitation of teachers' verbal style. His data indicated that observers of high-rewarding teachers imitated significantly more than those of low-rewarding teachers.

Kaplan, Simon, and Ditrichs (1970) examined the influence of

the repression-sensitization dimension on the imitation of common or uncommon themes on the Thematic Apperception Test. These themes were presented by models characterized as either adjusted or maladjusted. The results showed that repressors and sensitizers imitated the adjusted model more than the maladjusted one.

A crucial variable for imitation is the similarity between model and observer. Rosenkrans (1967) studied the extent to which perceived similarity to a social model affects the amount of imitative behavior in children. He found that high-perceived similarity to the model resulted in greater imitation than low-perceived similarity. Both the frequency of imitation and the magnitude of the behavior repertory were greater under high-perceived similarity between observer and model. However, Symonds' investigation (1974) of the same variable suggested only limited support to this finding. At any rate, one would predict more imitative performance within race and sex than across race and sex (Cook & Smothergill, 1973).

An alternative suggestion to this hypothesis is that the power of the model greatly influences the extent of imitation (Bandura, Ross & Ross, 1963). Therefore, white models may be imitated more than black models regardless of the observer's race and sex, since whites appear to have more power, prestige, and competence in Western culture than blacks (Thelen & Fryrear, 1971; Liebert, Sobol & Copeman, 1972). A similar expectation exists for male models versus female models (Rosenblith, 1961; Bergin, 1970).

Although a great deal of research has been published on the topic of model characteristics and imitation, the generality of the findings seems to be open to question. This appears to be due to

the limited conditions under which observer and model correlates of imitative behavior have been measured.

Characteristics of the Observer

In a review of the literature on observer characteristics and imitation, Akamatsu and Thelen (1974) delineated two types of observer variables: observer states and observer traits. The former are determined by experimental manipulation, and the latter, by assessing an enduring personality characteristic. On the basis of adequately controlled studies, both researchers suggested that both observer states and traits have consistent systematic effects on imitation. They further concluded that in such situations greater imitation is shown by subjects who are aroused, low in self-confidence, high in anxiety, highly dependent, and high in need for social approval.

Gorman (1974) lists perception of the observer's self as similar to the model and degree of emotional arousal as contributory to the observer's tendency to imitate the model. The effects of physiological and psychological arousal on vicarious classical conditioning were directly examined by Bandura and Rosenthal (1966). The results showed that vicarious classical conditioning increased with increasing psychological arousal and decreased with increasing physiological arousal.

It appears that if observer characteristics do have an effect on imitation, then individual variability could be expected. Different subjects within experimental conditions have been shown to

have considerable variance in the amount of imitation (Aronfreed, 1969; Akamatsu & Thelen, 1971).

In their investigation of observer characteristics and performance in an imitative verbal conditioning task, Finch, Rickard, and Wilson (1970) found no significant relationships between personality measures and amount of imitation.

Lipton (1971) found that subjects with a high need for social approval imitated more than did those with a low need for it. An earlier study (Herbert, Gelfand & Hartmann, 1969) failed to find a relationship between self-esteem and imitation.

Jacobson (1969) examined the effects of models and instructions on the interview behaviors of high- and low-dependent subjects. He found no main effect on imitation for dependency as measured by the Edwards Personality Preference Schedule. A later study concluded that high-dependent children imitated on a perceptual motor task to a greater extent than low-dependent subjects.

Sarason, Pederson, and Nyman (1968) found that highly anxious subjects tended to imitate and benefit from observation more than the less anxious ones. In contrast, Dubner (1971) found that anxiety as measured by the Children's Manifest Anxiety Scale and imitation of a a socially approved behavior had no relationship.

Other studies dealing with demographic characteristics seem to indicate differential modeling effects in relation to observer's age (Elliott & Vasta, 1970; Denney, 1972), sex (Ofstad, 1968; Phillips, Benton & Blaney, 1969), socioeconomic status (Baker, 1970), or race (Thelen, 1971; Cook & Smothergill, 1973). However, at this stage of research in these areas, a meaningful conceptualiza-

tion is probably premature (Akamatsu & Thelen, 1974).

Further research would seem to reveal other subtle interpersonal aspects of the observer in the imitation situation which are not as yet known. Zigler and Yando (1972), who studied the effects of motivation on imitation, recommend that imitation theories be expanded to include consideration of such factors. The broadening, they suggest, should lead to greater attention to these variables and, eventually, to a more comprehensive understanding of imitative processes.

Task and Reinforcement

Tasks may vary in the information they provide the observers. They differ greatly in regard to the observers' familiarity with them, the observers' perception of the task, and the reinforcement that observers have received in the past for performing them (Akamatsu & Thelen, 1974).

Bandura (1965) has argued that any socially evaluated behavior may provide a great deal of information to the observer regarding the appropriateness of his performing the behavior. A similar assertion applies to sex-role appropriate behavior. Fryrear and Thelen (1969) and Ofstad (1968) have found differential imitation of sex-role appropriate behaviors among male and female subjects.

Tasks may vary in the amount of information they provide the observer concerning expected or appropriate behaviors which in turn affects the amount of imitation. Andrews (1966) found that as familiarity increased, imitation decreased. Subjects who were familiar with the task had more information regarding appropriate

behaviors and thus imitated less than observers lacking such experience.

McLaughlin and Brinley (1973) employed a multiple-classification task to investigate the relation between age and observation learning. One of their conclusions was that cognitive structures for the performance of the task must be available in the observer in order to abstract and generalize information received from a model.

Zimmerman and Sheposh (1975) found that the difficulty level of the task, as well as the nature of feedback and the relationship between model and observer, affected the observer's subsequent intention to imitate the model.

Peters (1973) studied the effects of modeling in six T-groups during a general human-relations program. The results supported the view that personal change and learning outcomes desired are related to tasks that are functional, relevant, and realistically attainable.

Perhaps the principle of reinforcement is one of the most researched aspects of modeling. Many research studies have demonstrated that one tends to imitate responses that pay off. Rewarding a student for his good performance or behavior exerts a positive influence on other students. The use of reinforcement procedures by school personnel is a useful means for shaping constructive behavior in children (Sarason, Glaser & Fargo, 1972).

It has already been noted that three kinds of reinforcement have been identified--direct or external, vicarious, and self. All these appear to be involved in modeling (Hankins, 1973). Research has shown that the degree of imitation is facilitated when imitative

responses are directly enforced (Zimmerman & Pike, 1972; Ramirez-Cancel, 1975). The degree of imitation can also be affected by vicarious reinforcement, that is, when the model is rewarded or punished. Geshuri (1975) studied thirty-two high- and low-dependent children who observed a model perform a discrimination task. The results suggested that observed reward served as a cue for matching and facilitated selective attention in the high-dependent observers. That self-reinforcement patterns can be acquired imitatively through exposure to models without the subjects themselves being externally rewarded is supported by research (Bandura & Kupers, 1964).

Thus, a person may incorporate a model's responses into his own repertory on the basis of observation alone, but reinforcement or reward for making an imitative response may increase the probability of emission of the modeled behavior.

Summary of the Chapter

General studies on observational learning point out the existence of different viewpoints on imitation. Bandura's theoretical structure, however, seems capable of holding up in the existing diversity.

Models can be live or symbolic. While scientific knowledge about observational learning and the characteristics of model and observer is incomplete, some conceptualizations seem to be clear. The model does not have to be a paragon. The relationship between the observer and the model, although it may be elusive, is an important variable in observational learning. The model's credibility and his actual or symbolic link with the observer may be crucial.

Other variables, such as the nature of the task and reinforcement, play an important role in the modeling process.

Modeling is not a panacea. However, its scope extends across a variety of contexts. Its merits in promoting behavioral change in normal people, as well as in markedly deviant and disturbed groups, have been well assessed in studies on observational learning. The studies reviewed indicate that modeling is a very potent, if not the most potent, learning process.

CHAPTER III

BEHAVIOR MODIFICATION: A BACKWARD LOOK

This chapter on behavior modification is intended to provide a background for the comparison of the modeling concepts of Albert Bandura and Ellen G. White. Behavior modification which belongs to the behaviorist school of learning theory sometimes uses modeling as a means of improving behavior.

Various Labels

As an approach to changing human behavior in desired directions through the systematic application of psychological principles, behavior modification has an extensive and rich history. Although no definite date can be set for its emergence as a discipline, the practice of techniques consistent with principles of learning is relatively new, developing in America during the 1960s (Kleinmuntz, 1974). As Hilts (1974) puts it, "With all its humor, evangelism, and social ideals, behavior mod is an American reform. It grows naturally out of the purely American pragmatic idealism" (p. 216). Bradfield (1970) comments on the significant event of that decade:

> It is significant that during this past decade, when it was becoming increasingly evident that mankind must find new and innovative ways of solving ever-increasing problems, that interest and research in Behavior Modification theory and techniques has burgeoned at a rate unparalleled in the history of psychology. It is during this period that we have seen Behavior Modification taken out of the animal laboratory and placed where it rightfully belongs--in the classroom, in the clinic, in hospitals and in homes. (p. v)

Programs that change behavior through the use of duplicable procedures have been labeled in various ways. The concept first appeared in a scientific journal in 1958. Endeavoring to point out the need for adding objective tools to more orthodox psychotherapeutic techniques, Lazarus (1958) employed the term behavior therapy. However, Wolpe (1968) gives credit to Skinner and Lindsley for introducing the term. At any rate, characterized by a heavy orientation toward learning theory, the therapeutic emphasis of this phrase has been primarily on the treatment of clinical problems such as phobias, sexual disorders, alcoholism, and compulsions.

The term behavior modification has been credited primarily to the work of Krasner and Ullmann (1965). With somewhat broader social connotations than behavior therapy, behavior modification techniques, they claim, may be used not only to eliminate socially deviant behaviors but to develop and increase socially desirable ones. Interpreted from the viewpoint of learning theory rather than unconscious forces, behavior-modification procedures tend to focus on the systematic alteration of the physical and social aspects of the environment which elicit or maintain the behavior to be changed. Sulzer and Mayer (1972) list the functions implied by the term as "increasing, extending, restricting, teaching, maintaining, and reducing behaviors" (p. 2).

Another equally broad term is behavior change. This emphasizes learning new and constructive behaviors in natural and social settings, with no connotations of therapy or deviance (Mann, 1965). Thus, the procedures can be used to enhance already adequate prosocial behaviors.

However, Schwitzgebel and Kolb (1974) observe that the distinctions between behavior therapy, behavior modification, and behavior change are more conceptual than real. As it is, they do not have clear commonly accepted behavioral referents. And because the discipline is still in its emergent stage, the labels are often used interchangeably.

Philosophical and Intellectual Origins

The development of contemporary behavior modification can be better understood when viewed against its essential background, the philosophical and intellectual Zeitgeist of the eighteenth century. John Locke's point of view which argues that the mind of a newborn child is a tabula rasa, or blank slate, was widely accepted. Many of Locke's ideas originated as a polemic against Descartes' "innate ideas." While Descartes saw the mind laden with knowledge at birth, Locke developed the antithesis that the mind at birth is a blank tablet or white paper (Murphy & Murphy, 1969; Sahakian, 1975).

Locke saw human beings as essentially passive organisms that reacted only when stimulated, as opposed to the Cartesian doctrine that man's ideas, or the sources of his behavior, were automatic and self-acting. He further maintained that the blank slate was subsequently filled in through man's interaction with his environment. Sensations, experiences, and associations made their mark on it. His emphasis on the value of experience is well expressed in his classic, An Essay Concerning Human Understanding (1706). The product of seventeen years of labor, it appeared when he was nearing sixty years of age. He wrote:

> Let us then suppose the mind to be, as we say, white paper, void of all characters, without any ideas. How comes it to be furnished? Whence comes it by that vast store, which the busy and boundless fancy of man has painted on it with an almost endless variety? Whence has it all the materials of reason and knowledge? To this I answer, in one word, from experience; in that all our knowledge is founded, and from that it ultimately derives itself. Our observation . . . is that which supplies our understandings with all the materials of thinking. These two are the fountains of knowledge, from whence all the ideas we have, or can naturally have, do spring. (ch. 1, sect. 2)

Although Aristotle and other thinkers of the period also believed that experience was a behavior determinant, it was Locke who made this doctrine central to philosophy and psychology (Ullmann & Krasner, 1969).

The concept of associationism was another major philosophical and psychological step towards modern behavioristic viewpoints. David Hartley, a practicing British physician and a philosopher only by avocation, made a vigorous attempt to integrate the facts of anatomy and physiology with the ideas of philosophy. He made association, the doctrine that the mind and its contents are explained by the combination of simple elements, a consistent systematic principle and the very core of his philosophy. He was the first to use the doctrine to explain all types of mental activity (Schultz, 1969). He also demonstrated more convincingly than other philosophers its usefulness for psychology and its potential as the fundamental psychological law. He can rightly be called the true founder of the school of associationism (Boring, 1950).

Another philosopher of the period who advanced principles that foreshadowed later concepts of behaviorism was Jeremy Bentham, an economist and lawyer. He strove to find an orderly way of understanding and controlling human behavior which would put an end to

the destructiveness of the Industrial Revolution. He was one of the great founders of criminology and penology because in this way "he could show the irrationality of punishment through sheer retribution . . . and the possibility of founding correctional principles upon a simple association base" (Murphy & Murphy, 1969, p. 185).

In the late nineteenth century many investigators in the biological sciences developed a science of objective behavior. Using the tropisms of plants as a paradigm, they concluded that the response of simple animals were no different from those of plants or men. Thus, interest in the mechanistic but innate instincts directing man's behavior developed. Jacques Loeb, a British zoologist and physiologist, formalized this psychology of action rather than ideation (Herrnstein & Boring, 1965).

At about the same period, in Russia, two men with quite divergent research interests led out in a movement that emphasized the connection between man's behavior and environmental stimuli (Misiak & Sexton, 1966; Yates, 1970). While Descartes, a Frenchman, introduced the notion of reflexes into psychology and physiology, it was this Russian duo who underscored their adaptive character (Wolman, 1968).

The physiologist Ivan Sechenov embarked upon "most fruitful research in physiology of the nervous system and its relationship to behavior" (Wolman, 1960, p. 164). He argued that all behavior could and must be explained on the basis of the nervous system and the brain, and that the real cause of every human activity lay outside of man, that is, in external sensory stimulation. He also concluded

that all psychic phenomena were within the framework of the reflex arc.

Ivan Petrovich Pavlov, a physician and physiologist, brought together physiology and psychology and created a new field, psychophysiology. A Nobel Prize winner in 1904 for his investigation on the physiology of digestion, he is best known internationally for his discovery of the conditioned reflex (Herrnstein & Boring, 1965).

In this experiment Pavlov set up a carefully controlled situation to condition a dog to salivate when a bell was rung. A bell would be rung, and a dish of powdered food would be presented to the dog two or three seconds later. After ten or more repetitions of this process, the sound of the bell alone was sufficient to cause the dog to salivate. However, such response tended to disappear when the bell was rung too many times. Pavlov noticed that the dog tended to respond to any sound roughly similar to the ringing of the bell, so he found it necessary to teach his subject to distinguish between the right sound and other sounds. This he did by giving the dog food after the bell, but never after any other sound.

Thus, the various phenomena of conditioning--extinction, reinforcement, spontaneous recovery, generalization, and discrimination--were illustrated in this classic experiment. Wolman (1968) affirms the impact of this breakthrough on psychology: "The psychological literature of the world shows that Pavlov's theory of conditioned reflexes is a contribution of the utmost importance to psychology" (p. 132).

Another Russian physiologist and neurologist and Pavlov's contemporary, Vladimir M. Bekhterev, investigated human learning and

thought processes with objective techniques. In contrast to Pavlov's work on conditioned reflexes in animals, Bekhterev studied associated reflexes both in animals and men. Based on his findings on reflexology, which is the study of the whole of human behavior, his theory of learning through conditioning made it possible to formulate highly complex behavior in terms of conditioned responses (Schultz, 1969).

The work of these three men came to be accepted outside Russia as representative of a scientifically-based behavioristic movement (Ullmann & Krasner, 1969).

Formal Beginnings

The background of contemporary behavior modification must also take into account the emergence of the American school of behaviorism. A revolt against the whole existing psychology of the time, it set out to build an entirely new system. It made a plea for a truly objective scientific psychology on a par with other natural sciences like chemistry or phsyics. The declaration of the new psychology, which was to be the study of behavior, was made in John Broadus Watson's article. "Psychology as the Behaviorist Views It" was published in the Psychological Review in 1913. The acknowledged founder of behaviorism (Herrnstein & Boring, 1965) announced his position in his opening paragraph:

> Psychology as the behaviorist views it is a purely objective experimental branch of natural science. Its theoretical goal is the prediction and control of behavior. Introspection forms no essential part of its methods, nor is the scientific value of its data dependent upon the readiness with which they lend themselves to interpretation in terms of consciousness. The behaviorist, in his efforts to get a unitary scheme of animal response, recognizes no dividing line between man and brute. The behavior of man, with all its refinement and complexity,

> forms only a part of the behaviorist's total scheme of investigation. (p. 158)

Watson, professor of psychology at the John Hopkins University, was not a learning theorist in the strict sense. However, he conducted some famous experiments showing the power of Pavlovian conditioning on human behavior and established the tradition of objectivity in psychological studies. His work on fear (Watson & Rayner, 1920) is classic in the field of behavior modification, since it was the first time that a human emotional reaction was conditioned in an experimental setting.

Watson chose a healthy eleven-month-old boy named Albert who was especially noted for his apparent lack of fearful responses. Albert was encouraged to play with a white rat. After some time, Watson suddenly hit a steel bar with a hammer just as Albert reached for the rat. The noise frightened the child so much that he came to respond to the rat with fear. He had been conditioned to associate the rat with the loud sound. After a few days the conditioned response was still there, and his fear of the white rat was found to generalize to similar furry stimuli. Watson suggested that many adult anxieties may well have been conditioned in like manner in early childhood (Schultz, 1969).

Watson's concept of stimulus and response led him to believe that behavior could be controlled in almost unlimited ways. To do this, he proposed the arrangement of sequential conditioned responses. His extreme environmentalistic position, as against the hereditary, is indicated in his oft-repeated boast recorded in his book, Behaviorism (1925):

> Give me a dozen healthy infants, well-formed and my own specified world to bring them up in and I'll guarantee to take any one at random and train him to become any type of specialist I might select--doctor, lawyer, artist, merchant-chief and, yes, even beggarman and thief, regardless of his talents, penchants, tendencies, abilities, vocations, and race of his ancestors. (p. 82)

No one gave him "a dozen healthy infants" so that he might test his claim, and he admitted that in making the claim he was going beyond the known facts. Although, generally speaking, his experimental contributions were neither extensive nor particularly significant, he must be credited with being the first to point out the social implications of Pavlov's work. And it was also he who provided early illustrations with human beings of its potential in modifying maladaptive behavior (Bergmann, 1956).

For two decades the issue of behaviorism was the subject of heated debates in America. Its tenets were continually under scrutiny and modification. The proposal of new formulations resulted in new varieties of behaviorism, although an objective psychology of behavior remained the common basic concept. Karl S. Lashley, the most outstanding physiological psychologist in America during his time, initially endorsed Watson's behavioristic program. But his experimental findings clashed with some of the founder's views and called for their revision (Sahakian, 1975).

After Watson, two groups of behaviorally oriented investigators came on the scene (Misiak & Sexton, 1966). One group focused on animal studies, while the other continued to adapt behavioristic methods to clinical problems. The conditioned-response method was widely applied in human psychology, with important consequences for

psychological theory, both within and outside the behavioristic movement.

Historically, the origin of present-day operant conditioning procedures, a current concept of behavior modification, may be traced to Thorndike's doctoral dissertation at Columbia University in 1898 (Boring & Lindzey, 1936). From his early studies on animals and the "puzzle box," Thorndike, the first American learning theorist and father of educational psychology (Hilgard & Bower, 1966), devoted his long and prolific professional life to searching for laws of learning patterned after the laws of physics. He was well known for his experiments in which cats learned to release themselves from cages by trial-and-error discovery of how to operate a latch mechanism. He was a prominent initiator of associations between stimuli and responses, and observation of overt behavior. Thorndike also established laws of learning--important themes that have dominated American learning theory (Woodworth & Sheehan, 1964; Biehler, 1974).

Another psychologist after Watson who espoused a useful form of behaviorism was Edwin Guthrie. Variously described as the most persistent advocate of conditioning (Wolman, 1960) and the most radical of all the associationists (Woodworth and Sheehan, 1964), Guthrie remained for several decades a forceful proponent of a learning theory based on only one principle--contiguity. To him, all learning or behavior modification depended solely on the contiguity of stimulus and response (Guthrie, 1935).

By 1930 Watsonian behaviorism was abandoned by most American psychologists. However, the behaviorist point of view originated by Watson continued in a new form, often given the name of neobehavior-

ism. Clark Hull, a psychologist at Yale, was the main representative of this post-Watsonian phase (Misiak & Sexton, 1966). Of the conditioning theories, Hull's has proved to be one of the most provocative of research, particularly in the investigation of the role of reinforcement in the establishment of conditioned responses (Boring & Lindzey, 1952). Hull is also recognized as one of the earliest theorists to attempt a highly quantified theory of learning. Wolman (1960) said: "Few psychologists have had such a mastery of mathematics and formal logic as Hull had. Hull applied the language of mathematics to psychological theory in a manner used by no other psychologist" (p. 105).

It might also be worth mentioning that other progenitors of modern-day behaviorism came from the earlier school of functional psychology. Through American psychologists such as William James and John Dewey, Charles Darwin's influence extended beyond animal psychology to psychology in general (Chaplin & Krawiec, 1960). In fact, it was the functionalists who influenced Watson, in that they emphasized behavior rather than conscious states (Sahakian, 1975).

A New Form

The leader of a new form of behavioristic psychology, called operant behaviorism, and the most distinguished exponent of contemporary behaviorism is B. F. Skinner (Sexton & Misiak, 1971). In many ways, Skinner's position represents a renewal of Watsonian behaviorism, for as MacLeod (1959) observes, "Watson's spirit is indestructible. Cleaned and purified, it breathes through the writings of B. F. Skinner" (p. 34).

Skinner conducted systematic experiments, mainly on white rats and pigeons placed in a compartment he especially devised and constructed. In this "Skinner box" the rat learned to press a bar or the pigeon to peck at a disk or a key to receive a food pellet or a piece of grain as a reward. When the animal made the correct response such as pressing a bar, it was rewarded by food or other means. In other words, its response was reinforced. Such a response is called operant behavior, distinguished from respondent behavior. Skinner is considered to be the first and only one to make a clear distinction between elicited and emitted behavior, or in other terms, classical and instrumental conditioning. Respondent behavior refers to those responses elicited by known stimuli, but operant behavior refers to those which need not be correlated with any known stimuli. His first book published in 1938, The Behavior of Organisms, was Skinner's early statement of operant behavior and conditioning, and represented a major landmark in current behavior modification (Bigge, 1971).

Skinner (1953) holds that most human behavior is a product of operant reinforcement. His whole thesis is based on the idea that behavior may be engineered by arranging certain contingencies. The answers to man's problems are viewed in terms of a designed society in the hands of benevolent designers (Skinner, 1971).

The 1950s saw an amazing thrust of behaviorism into different areas. Skinner's theoretical work, his experimentation, and writings provided the impetus for an upsurge in behavioral research during that decade. His research also enabled specialists in many

disciplines to change a broad spectrum of deviant behaviors (DiCaprio, 1974).

During the 1960s behavior modification came of age as a methodology with applications in a variety of fields including education, psychology, social work, nursing, and medicine (MacMillan, 1973).

The Earlier Roots

Although these major events cited in the history of psychology are important in understanding the present, certain aspects directly related to behavior modification can be traced to much earlier roots.

In a selected history of behavior modification, Forness and MacMillan (1970) noted that treatment procedures consistent with learning principles were employed by the Greeks in their temple psychiatry. Zilboorg and Henry (1941) mentioned the early aversive treatment of the Romans who put eels in the wine cup as a cure for alcoholism. Schwitzgebel (1971), placing behavior modification in historical perspective, told of prescriptions for disordered people, such as wearing a head helmet for a week for the man who thought he had no head.

Anton Mesmer, a Viennese practitioner, subdued Paris with his animal magnetism, later termed mesmerism, and still later, hypnosis. He was able to relax the inhibiting responses of certain hysterical diseases. His methods were in direct line with both the procedures of the Greeks and the present-day concepts of placebo manipulation as treatment (Forness & MacMillan, 1970).

In the same era Philippe Pinel, another French physician with thorough education in the sciences and in psychology, courageously tried to improve the lot of the insane. Believing that the maladaptive individual was also a person to be treated as normal and responsive to the same stimuli as other people, he liberated the mentally ill from their chains. It was not only chains, however, that he succeeded in casting away. For the first time, someone tried to understand and classify mental diseases without philosophical preconceptions and solely on the basis of observations and study. Pinel's work led to the concepts of behavior modification embodied in moral treatment (Sahakian, 1975).

Summary

The formal beginnings of the behavior modification movement can be pinpointed in the first quarter of the twentieth century, but its origins and techniques can be traced to much earlier periods. The efforts of several practitioners in and peripheral to the field represent a procedure of environmental change to alter behavior. Considered the theoretical foundations of behavior modification procedures are the work of such men as Pavlov, Sechenov, and Bekhterev of Russia, and of Thorndike, Guthrie, Hull, and Skinner of America.

CHAPTER IV

SPOTLIGHT ON BIOGRAPHICAL PERSPECTIVES

The Optimistic Model

Example, sanctions, and social responsibility could well sum up the dominant themes of one psychologist-researcher who believes and has proven that there is hope for maladaptive behavior. That hope, he says, is the use of constructive models.

Albert Bandura is David Starr Jordan Professor of Social Science in Psychology at Stanford University. A speaker and prolific writer, he is the author of six texts, including his most recent, Social Learning Theory (1977).

In 1963 he wrote on behavioral techniques that have come to be known as behavior modification. His book Principles of Behavior Modification (1969) is still considered standard in the field. His Psychological Modeling (1971) has served as a wellspring for many of the behavior-modification techniques now widely applied.

Bandura's widely publicized studies on the effects of real-life and vicarious models were his "Bobo doll" experiments in the late 1950s and early 1960s. As a result of these studies, he became a frequent witness before congressional committees, speaking in behalf of the harmful effects of television violence on children (New York Times, 1972).

Bandura is the editor of the Prentice-Hall Series in Social

Learning Theory. He also serves on the editorial boards of several professional journals including the Journal of Personality and Social Psychology, the Journal of Experimental Child Psychology, and the Journal of Experimental Social Psychology. His articles appear in source books in many areas of the discipline of psychology. He is also a frequent contributor to academic and professional symposia and journals (Vaughan & Brazelton, 1976).

In 1969-70 he was a fellow of the Center for Advanced Study in the Behavioral Sciences on the Stanford campus. Two years later he became a recipient of a Guggenheim Fellowship. In 1974 the American Psychological Association catapulted him to the presidency.

Albert Bandura* was born in 1925 and grew up in the tiny town of Mundare, Alberta, Canada. The son of wheat farmers of Polish stock, he was largely obliged to educate himself as did the rest of his classmates in the twenty-student-and-two-teacher high school of that town. At that time Mundare had a population of six hundred.

After high school he attended the University of British Columbia in Vancouver. Upon receiving his baccalaureate, he went to the University of Iowa for graduate study in psychology. There he received his M.A. and Ph.D. degrees. He spent a year in Wichita, Kansas, before taking his post as a psychology professor at Stanford University where he has remained since 1953.

While Miller and Dollard introduced the concept of social

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*Unless specifically documented, the facts from here on are based on the interview with Dr. Bandura by Edwin Kiester, Jr. and David Cudhea (1974). The writer wishes to express her appreciation to Dr. Bandura for his suggestion of the article.

learning, it remained for Bandura to expand and apply its principles to behavior modification (Sahakian, 1976). In fact, he is sometimes referred to as the father of social learning theory and one of the pioneers in behavior modification. Of the few who have moved into the mainstream of psychological theory from its narrow Freudian roots, Bandura presents a broader view of man's behavioral development. Human behavior results from man's self-regulating capacities interacting with the environment. Bandura argues that the environment is as modifiable as the individual, and that contingencies are often of man's making.

Bandura is widely respected for his explanation of psychological modeling. While he is a renowned scholar in aggression theories (Bandura, 1959; 1973), the heart and soul of his work has been the concept that behaviors are learned by observation rather than by direct experience. He maintains that behaviors do not originate solely within the individual but are learned and reinforced by models around him. The individual's main models, he proposes, are the family, the subcultural groups, and the mass media (Bandura, 1976).

In Bandura television violence finds an indomitable adversary. "His powerful presentation . . . and his ability to stand up to the senators and their incisive questions . . . had much to do with changing the whole regulatory power on children's television" (Vaughan & Brazelton, 1976, p. 52). His early research centered on family influences (Bandura & Walters, 1960) but increasingly focused on how exposure to aggression tends to foster similar conduct in children (Bandura, Ross & Ross, 1961; 1963).

Bandura believes that the rapid spread of new behavioral patterns is done through the mass media. To document this statement, he cites imitation learned from the media as the main cause of the rapid rise in international airline hijackings (Bandura, 1976). Similar symbolic modeling, Bandura points out, could be shown in the spread of drug addiction, political kidnapping, and even streaking.

Another area of Bandura's current research has been the moral and social sanctioning of aggression. Underscoring the weakness of the traditional assumption that each person decides through his conscience whether or not to do wrong, he has a lot to say about moral justification. He asserts that social and moral sanctions have developed that enable an individual to ignore his conscience temporarily (Bandura, 1974). Bandura sees among the sanctions operating the dissociative proceses, whereby self-censuring reactions are eliminated by construing reprehensible behavior in euphemistic labels (Bandura, 1976).

A third area of the psychologist's ongoing research interest involves developing and refining modeling procedures for phobic behaviors. He claims that with the application of Banduran principles the phobia can be conquered within a few hours (Bandura & Menlove, 1968; Bandura, Jeffery & Gajdos, 1975).

A devoted optimist, Bandura believes that it should be no more difficult to build in safeguards against violence than to teach snake phobics how to overcome their fears. The same modeling techniques, he suggests, might be employed but applied on an institutional rather than on an individual level (Bandura, 1975).

As a pioneer in behavior modification, Bandura is upset about

some popular negative attitudes toward the modeling techniques, and the descriptions of it in terms of authoritarian control. To him, behavior modification is not a controlled relationship but a service, a contractual arrangement.

Bandura does not see any essential distinction between behaviorism and humanism. Behavior modification, he believes, can be and is being used effectively for humanistic goals. In fact, he predicts the development of some kind of humanistic behaviorism.

The value system shifts in a changing society. This view, Bandura says, impelled him into the APA presidency. He admits that the Vietnam war has made him realize that the psychological organization should make its voice heard on issues of social policy.

Outside of his academic and research involvements, this fifty-two-year-old Canadian is interested in good food, opera, controversy, wilderness exploring, and family-oriented recreation. With his wife Virginia and two teen-age daughters, he lives in a comfortable home just off the Stanford University campus.

Who Was Ellen G. White?

In order to provide an understanding of the life and writings of Ellen G. White, it is necessary to review briefly the psychological and intellectual climate which prevailed at the period of history in which she began to write.

The Philosophical and Psychological Backdrop

The period was 1827-1885, the block of time before the great expansion of American psychology in the 1890s. When surveying conditions in the United States during this part of the century, the

student is struck with certain distinctive characteristics of the time.

The earlier phase, 1827-1845, was dominated by a variety of psychological interests--hypnosis, suggestion, dreams, abnormalities, language and aesthetics, and the relationship between mental philosophy and religion (Davis, 1936). Thomas Upham, an American clergyman and educator, and a voluminous author, was well known for his Elements of Intellectual Philosophy (1927). A representative work of the era, the book reflected the didactic, somewhat moralistic and moderately religious climate of those eighteen years. Other works of the period, such as those by Sawyer (1834) and Mahan (1840), followed Upham's pattern.

Somewhat outside of this intellectual trend was the dissatisfaction with prevailing views of body and mind as two substances. The common thinking on the topic was expressed by Frederick Rauch, a native of Germany who came to America in 1831. In his book Psychology a View of the Human Soul, Including Anthropology published in 1840, he defended the soul as a kind of vital link which made the body what it was. He argued that the soul and the body were related like sunlight and raindrops in the rainbow. Denying the independent faculties of the mind, he emphasized its development as analogous to the growth of a plant from a seed.

During this period of Upham's academic predominance, two popular pseudo-scientific movements came into being. Publications on phrenology and mesmerism began to appear and soon spread from Vermont to Kentucky. Interest in these two movements reached a high

point in the 1830s and 1840s and continued to flourish until the end of the century.

Through the second phase, 1845-1885, one finds three psychological concepts actively dominant. First, the faculties were merely modes or manners in which the mind acted, not separate substances, causal agents, or constant endowments of an individual. Second, the intuitions of the mind were modes or categories of experience. Third, the freedom of the will was the nature of causability, that the object or event was merely the occasion rather than the cause of the mind's acting. The range of interests during this period was highly restricted. Especially noticeable was the total absence from standard texts of psychology of abnormal phenomenon, animal psychology, or social psychology. The emphasis was on intellectual processes.

In his comprehensive review of the philosophical and psychological literature of the period, Davis (1936) makes an interesting observation. He concludes that the main cause for the mental activity school seems to be its conformity with the temper of the times and its coincidence with the spread of evangelical religion. The age was engrossed in morals and theology. Free will, conscience, values, and independence of the soul were cherished dogmas. The doctrine of intuitive truth made the system especially attractive. Authors of the period believed that the most important contribution psychology could make towards helping students was a sound foundation of morals and religion. Undoubtedly, the writers' own interests led them in that direction.

Speaking of the period as "the glacial age of American

philosophy," Riley (1907) cites as the cause three factors: the Scotch immigration to America; the dominance of Princeton Theological Seminary, long a seat of Scotch realism; and the temper of the times. A similar impotence was evident in psychology.

However, in the closing years of the century the Scottish mental activity school of psychology receded, giving way to an importation of new viewpoints and an original American development proposed by William James.

In this setting Ellen Gould White was born. In this philosophical and intellectual milieu she lived almost two-thirds of her entire life.

A Precursor of Modeling

In Gorham, Maine, on November 25, 1827, Ellen was born to Robert and Eunice Harmon. She and her unidentical twin sister Elizabeth were the youngest of eight children (Seventh-day Adventist Encyclopedia, 1976).

At the age of nine Ellen suffered an injury that cut short her formal education and almost took her life. Coming home from the Brackett Street School one day, she was struck by a stone hurled by an angry child. It hit Ellen in the face, rendering her unconscious for three weeks. She awakened from this stupor with her face disfigured and her nerves shattered. Unable to manage a pen or fix her eyes on a page, she fainted every time she attempted to study. Thus in 1839 her formal schooling ended at the third-grade level (White, 1860).

Though originally she was an attractive and happy child, her

facial disfigurement and poor health caused her playmates and former friends to shy away from her. Lonely and seemingly forsaken, she turned to the study of the Bible through which she hoped to find comfort in Jesus Christ (White, J. 1888).

The Harmons were devout Methodist Episcopalians who accepted the Adventist message. William Miller, a farmer-preacher from western New York, taught that Christ would personally return to this world about 1843. As a consequence of accepting this message, the Harmons were expelled from the Methodist Church (White, 1351). When in 1844 Christ did not come, many Millerites went back to their former churches. Others gave up their faith, while still others groped for new directions (Loughborough, 1892).

It was at this time of great disappointment that seventeen-year-old Ellen Harmon, while praying with a group of women, appeared to fall into a trance. Upon regaining consciousness, she reported having seen a vision of the Advent people on their journey to the heavenly city. This was the first of some two thousand visions which she claimed to have received from God during her lifetime (White, 1882). These revelations--concepts, instruction, admonition, and encouragement--she made known to others orally, in personal communication, and through the printed page (Jemison, 1955). This heavy responsibility that rested on her frail young shoulders she graphically portrayed later:

> Early in my public labors I was bidden by the Lord, "Write, write the things that are revealed to you." At the time this message came to me, I could not hold my hand steady. My physical condition made it impossible for me to write.
>
> But again came the word, "Write the things that are revealed to you." I obeyed; and as the result it was not long before I could write page after page with comparative ease. Who told me

> what to write? Who steadied my right hand and made it possible for me to use a pen?--It was the Lord. (1906, p. 8)

In 1846 Ellen Harmon was married to James Springer White, a young preacher who had previously taught school (White, J. 1888). In 1863, twenty years after the collapse of the Millerite movement, the Whites helped to organize the Seventh-day Adventist Church (SDA Encyclopedia, 1976). Together they traveled throughout the United States, lecturing and helping bring unity to the young church. Following her husband's death in 1881, she continued to travel, lecture, and counsel on behalf of the church in Europe and Australia, where she remained from 1891 to 1900 (White, 1886; Delafield, 1975).

Although Ellen White was a prominent pioneer and leader of the Seventh-day Adventist Church, she never held an official position in the organization. However, she exerted a powerful influence on the development of the new church largely through her spiritual counsel and writings (Loughborough, 1892; Spicer, 1941). While she wrote over a period of several decades, and that was seventy years ago, her philosophy still guides the church. Robert H. Pierson, incumbent president of the General Conference of Seventh-day Adventists, confirms Ellen White's great and extensive influence on the world-wide organization:

> Her writings have been an invaluable asset to Seventh-day Adventists. Much of the success the Adventist Church has experienced on its worldwide program, whatever advance perception it has enjoyed in such fields as education and medicine, the open secret is usually found in her writings. (1973, p. ii)

As of 1974, this church, working in 520 languages, has encompassed the globe with 406 secondary schools, 72 colleges, 2 universities, a medical school, 300 hospitals and clinics,

3,797 elementary schools, and 50 publishing houses (General Conference Office of Archives and Statistics, 1976).

A prolific writer whose main theme throughout her life was Jesus Christ, Ellen White was the author of 63 volumes translated internationally into 100 languages with close to 20,000,000 copies in circulation. Her literary output, represented by 60,000 manuscript pages done by hand, relates to the welfare of the whole man (White, A. 1973). Her remarkable insights and pronouncements in the fields of education, medicine, nutrition, history, and ecology are being progressively substantiated by scientific research (McCay, 1959; Noorbergen, 1974).

Ellen White was also an eloquent and compelling speaker. Unaided by the electronic amplification of modern times, she held her audiences spellbound wherever she spoke--indoors or outdoors (American Biographical History, 1878). However,

> . . . it is as an author that her influence has been and is most greatly exerted. Her voice charmed thousands; but through her writings, an imperishable record, she has reached and continues to reach millions, in many languages and many lands. From her who could not hold a pen, who in her misfortune despairingly forswore all hope of becoming a teacher, God in His mighty and gracious providence brought forth a ready writer, an oracle whose words shall echo through the final halls of time. (Spalding, 1973, p. 74)

By provision of her will (Nichol, 1951) Ellen White's enormous body of writing, which also includes some 30,000 pages of letters, diaries, and other published materials, is in the custody of the White Estate at the General Conference of Seventh-day Adventist headquarters in Takoma Park, Maryland.

A mother of four boys, two of whom died before reaching adulthood, Ellen White maintained a flourishing household with

many visitors, young people, and destitute individuals included (White, A., 1972). Her diaries and the testimonies of those who knew her personally reveal her as

> . . . a thoughtful mother, a careful housewife, a genial hostess, and a helpful neighbor. She is a woman of conviction, but gentle in manner and voice. She is interested in the everyday happenings and the local news. She can enjoy a good laugh. There is no place in her experience for a long-faced religion. One feels at perfect ease in her presence. She is friendly, but not snoopy or prying. (White, A., 1972, p. 9)

After returning from Australia she was in declining health for several years. On February 13, 1915 she fell and sustained an intracapsular fracture of the left femur (Spalding, 1973). This doubtless served to hasten her death which came quietly on July 16, 1915. She died at her home "Elmshaven" near St. Helena, California.

Although a few negative accounts (Canright, 1919; Winslow, 1933; Numbers, 1976) have been penned about her mission as a messenger to the Seventh-day Adventist Church, the results of her ministry reflected in the growth of the movement and in the changed lives of thousands around the world testify to her inspiration (Douglass, 1973). When she died, a well-known magazine in her time, The Independent, epitomized her life and work in these words:

> She was absolutely honest in her belief in her revelations. Her life was worthy of them. She showed no spiritual pride, and she sought no filthy lucre. She lived the life and did the work of a worthy prophetess. (August 23, 1915)

Summary

Over the years, different theories and strategies have been suggested for changing and improving human behavior. Of the many proponents in this line of human concern, two highlight the power of example in influencing conduct and life styles.

Born a century apart, Albert Bandura and Ellen White represent two distinct ages of divergent intellectual, cultural, and religious climates. Bandura is a scholar, psychologist, author, researcher, and university professor. Although her formal education was restricted because of a childhood injury, White authored sixty-three books during her writing of seven decades, was a lecturer-speaker, and the founder of a church which now spread-eagles the world.

Bandura is considered the chief proponent of modeling today. White may be regarded as a precursor of this behavior modification strategy.

CHAPTER V

MODELING INFLUENCES: A THEORETICAL OVERVIEW

Over the decades various theories have evolved in the field of behavior modification. A significant innovation which has recently developed in the application of learning concepts to behavior change is that of modeling. Modeling, which has its roots in animal experiments on imitation (Miller & Dollard, 1941), is an approach whereby new modes of human behavior are acquired and modified in dyadic and group situations. This is achieved by observation of other people's behavior and its consequences for them (Klausmeier & Goodwin, 1975).

Man has perhaps from the beginning of his existence learned much of what he knows by observing others and imitating their behavior. However, it is only in the past decade that this approach to the study of learning has received the attention it deserves. This aspect of social learning theory specifies the conditions underlying the process of learning by observing. Referred to as modeling or observational learning, this theory is attributable to the efforts of Albert Bandura, who is "probably the most important investigator and theoretician in this field" (Berkowitz, 1972, p. 92).

Diverse Viewpoints

In a review of research involving imitation, Flanders (1968) found diverse viewpoints on the subject. He therefore suggests it is

of crucial importance that imitation researchers be guided by a definite imitation viewpoint. "The more the results of any potential imitation study bear directly upon the elements of a good imitation viewpoint," he states, "the more valuable the study is likely to be" (p. 332).

Interestingly, Flanders found that Bandura's imitation viewpoint is best able to cope with other existing viewpoints. He further observes that Bandura's theoretical statements about imitation are shrewd, yet simple. Their simplicity, he notes, is their outstanding characteristic and does not overstep the methodological state of the art.

Subsequent to Flanders' survey of the social learning literature is Zimmerman and Rosenthal's review of observational learning studies (1974) using human models in abstract and conceptual rule learning. These reports were summarized and integrated, and their implciations were discussed in regard to Bandura's theoretical formulations.

In a study designed to test modeling effectiveness as a function of increased similarity between observer and model, Symonds (1974) employed Bandura's four-process model of imitation as his frame of reference.

A competency-based teacher-education model based on Bandura's four component processes has been proposed by Hartjen (1974), headmaster of the Montessori School of Brooklyn. This teacher-training model is an effort to resolve some of the issues raised on teacher education.

Liebert, Sprafkin, and Poulos (1975) used the process of

observational learning to conceptualize the way television viewing influences children's behavior. The approach was described as a viable model for the production and evaluation of the whole range of television programming for children.

The foregoing works do not exhaust the list of evidences lending support to the workability of Bandura's modeling theory. The fact is many researchers on the different facets of human behavior in recent years (Koran, Koran & McDonald, 1972; Cook & Smothergill, 1973; Zimmerman & Rosenthal, 1974b; Zimmerman & Brody, 1975) consistently cite his viewpoints as a basis for their studies.

In the light of these considerations, the most compelling question is: What is Bandura's modeling theory? The discussion in this chapter is an attempt to answer this question.

Modeling, the Preferred Term

The learning phenomena resulting from observing the performance of appropriate models are ordinarily subsumed under a variety of labels. These include imitation, identification, observational learning, copying, contagion, social facilitation, introjection, internalization, incorporation, role taking, and modeling (Bandura, 1969). In Bandura's theoretical framework, the acquisition of new behavior modes and the modification of existing behavioral patterns by observation are designated modeling.

Although it is possible, Bandura admits, to draw distinctions among the different terms on the basis of antecedent, mediating, and behavioral variables, there is little consensus with respect to differentiating criteria. Furthermore, there is every indication, he

maintains, that the same learning process is involved, regardless of the label used. The viability of the term modeling he explains thus:

> The . . . term was adopted because modeling influences have much broader psychological effects than the simple response mimicry implied by the term imitation, and the distinguishing properties of identification are too diffuse, arbitrary, and empirically questionable either to clarify issues or to aid scientific inquiry. (Bandura, 1971a, p. 5)

The Rationale for Modeling

In his comparison of the relative efficiency of the operant or instrumental conditioning paradigm versus modeling, Bandura (1969, 1971a, 1975) posits several reasons why modeling influences are heavily favored in promoting everyday learning. It must be remembered, however, that his argument is not with operant conditioning procedure per se, but rather against the restriction of its explanatory concepts (Krasner & Ullman, 1965).

Bandura asserts that natural environments are loaded with potential hazards, and errors can be costly or dangerous. The provision of models could eliminate needless or injurious mistakes, especially in the learning of required skills such as driving for adolescents and swimming for little children. Modeling does not only aid in survival but also reduces the burden of time-consuming performance of inappropriate responses as in the trial-and-error processes of teaching (Kanfer & Phillips, 1970).

Bandura believes that while operant conditioning may have a significant effect on performance, it is not an efficient technique for the development of new behavior repertories. He refers to a mynah bird that appeared on television. It could sing a chorus of

"Sweet Adeline." Rejecting the possibility of the feat being achieved by differential reinforcement, Bandura argues that modeling procedures have done it. A young housewife had succeeded not only in teaching the bird to sing but had also helped it to develop an extensive verbal repertory--through modeling (Bandura, 1971a; Hankins, 1973).

Modeling influences, Bandura further states, can create generative and innovative behavior. By synthesizing features of different models and seemingly diverse responses, observers can achieve novel styles of thought and conduct.

There is growing evidence that abstract modeling is a highly effective means of inducing rule-governed cognitive behavior (Bandura, 1971a; Zimmerman & Rosenthal, 1974). People alter their judgmental orientations, linguistic styles, conceptual schemes, information-processing strategies, and other forms of cognitive functioning on the basis of observationally derived rules.

Issues and Interpretations

To understand the processes of observational learning, especially Bandura's theoretical viewpoint, it is important to touch on the major controversies in the explanation of the modeling phenomena. This appears to be best done by tracing the evolution of the imitation concepts. Since comprehensive historical surveys of these theories are presented in other sources (Miller & Dollard, 1941; Bandura, 1965; 1971a), only a brief summary will be given here.

It might be helpful to preface this review of theoretical positions with two general observations: (1) that the theories

followed the psychology current at the time they were proposed, and (2) that the differences have often arisen from failure to distinguish the diverse effects that modeling influences can have. The history of imitation, therefore, is in part the history of the psychological movements in which imitation theories have been submerged (Miller & Dollard, 1941).

From Aristotle to Bandura

The concept of imitation in psychological theory dates back to Aristotle. He holds the distinction of having first assigned an important role to imitative behavior. In fact he argued that of all animals man was the most imitative, and through imitation, which was innate in him from childhood, got his first teachings (Deahl, 1900).

Although Aristotle believed that the imitative tendency appeared early in man's life and was essential in human learning, he took no position on the problem of the source of this behavior nor attempted to solve it (Butcher, 1922). In other words, that imitation occurred was clear, but why it occurred was much less clear.

In the early 1900s imitation was viewed as a basic human instinct--that people reproduce the behavior of others because they have an innate propensity to do so. In their effort to show the perpetuating dominance of cultural heritage, theorists, such as Tarde (1903) and McDougall (1908), postulated that imitativeness was implanted in man's nature.

This nativistic view tended to stop scientific inquiry. Consequently, it fell into disrepute and gave way to a plausible

account of the matching behavior in relation to bodily function. Some associationists suggested a specific neurological mechanism for a primary sort of imitation. Others, like Holt (1931), adopted the circular-reaction principle--that the child learned to imitate by first being imitated. Still others accepted the notion that imitation was similar to a Pavlovian reflex.

These associative concepts, however, were soon replaced by a variety of theories that emphasized the positive reinforcement that follows an imitative response. Although their exposition of the doctrine differed in clarity and details, proponents such as Thorndike (1940) and Miller and Dollard (1941) were notable in having placed a barrier against continued thinking in terms of an instinctive tendency to imitate. Through his experiments on chickens, cats, and dogs Thorndike played an important role in clarifying imitation theory.

Although imitation received considerable attention during the early part of the present century, it was not until the publication of Miller and Dollard's Social Learning and Imitation in 1941 that the concept was fully integrated into a behavior-theory framework (DiCaprio, 1974). Until that time there was no research to speak of on modeling processes. Their pioneering efforts virtually founded the empirical study of imitation. But while their emphasis on direct reinforcement was justified, their claim that imitation presupposes direct reinforcement was negated by succeeding studies (Flanders, 1968) which demonstrated effects of other variables on the observer. Thus, an imitation viewpoint more inclusive than that of Miller and Dollard's became a felt need.

Accepting the challenge generated by the inadequacy of Miller

and Dollard's studies, Mowrer (1960), a learning psychologist, conceptualized the sensory-feedback theory. Similarly highlighting the role of reinforcement, his analysis was mainly concerned with the emotional concomitants of modeled response. But it fell short of explaining the acquisition mechanics of behavior patterns (Flanders, 1968). Despite the limitation of his theory, Mowrer can be given the credit for suggesting the idea that "given the right circumstances, behavior can be facilitated, extinguished, or inhibited without occurring" (Mowrer, 1960, p. 64).

However, generally speaking, the problem posed by Miller and Dollard regarding the imitation phenomenon aroused relatively little response among learning theorists. Some dealt with imitation cursorily. Others neglected the problem entirely. Especially noticeable was the absence of the imitation topic in the indexes of textbooks on learning at that time (Bandura, 1971a).

In the 1960s, when therapists were modifying human behavior according to learning principles, interest in the imitation issue was revived. Bandura conceptualized the processes of social modeling, as he calls it, within a behavioral model. What seemed to have triggered his interest was the inefficiency and laboriousness of operant conditioning in the development of novel behaviors. By 1962 Bandura had performed a number of experiments at Stanford University with modeling techniques. Throughout that decade his work further refined the modeling rationale and led to the application of this principle to classroom settings (Krasner & Ullmann, 1965; Macmillan, 1973; Kiester & Cudhea, 1974). The numerous studies on observational learning that have been published and continue to be published (see

chapter II) attest to the renewed and increasing attention to this topic.

Bandura's Model of Man

Before discussing Bandura's modeling viewpoints, his model of man must be examined, as it plays a vital role in this theory of behavior. At the meeting of the American Psychological Association, New Orleans, August 1974, the psychologist-researcher commenced his presidential address with these words:

> The views about the nature of man conveyed by behavior theory require critical examination on conceptual and social grounds. What we believe man to be affects which aspects of human functioning we study most thoroughly and which we disregard. Premises thus delimit research and are, in turn, shaped by it. (Bandura, 1974, p. 859)

A conceptual orientation, he stresses further, not only prescribes what facets of man will be studied in depth but also how one goes about changing human behavior.

Bandura views human nature from the social learning standpoint--"as a vast potentiality that can be fashioned by direct and vicarious experience into a variety of forms within biological limits" (Bandura, 1977, blurb). Man is not an internally impelled system. Neither is he a passive reactor to external stimulation. Rather,

> . . . psychological functioning involves a reciprocal interaction between behavior and its controlling environment. The type of behavior that a person exhibits partly determines his environmental contingencies which, in turn, influence his behavior. (Bandura, 1965, p. 63)

Thus, Bandura sees behavioral patterns as acquired and regulated by internal and external influences.

Environments have causes, Bandura maintains, as do behaviors.

They are, for the most part, only potentialities until actualized and fashioned by appropriate actions. While it is true that behavior is regulated by its own contingencies, Bandura argues that the contingencies are partly man's own making. In this bidirectional process he underscores behavior as one of the more influential of future contingencies. To the deterministic dictum that contingencies change behavior, Bandura proposes the addition of the reciprocal side: "Change behavior and you change the contingencies" (Bandura, 1974, p. 866).

A key concept in Bandura's view of man concerns the outcome or consequence of behavior. Outcomes change behavior in man through the intervening influence of thought. These consequences motivate and inform through their incentive value. By representing foreseeable outcomes symbolically, future consequences can be converted into current motivators of behavior (Bandura, 1971c).

Bandura points out that human conduct is better explained by the relational influence of observed and direct consequences than by either factor alone. Immediate consequences, unless unusually powerful, do not necessarily outweigh deferred ones (Mischel, 1974).

In Bandura's view, man is endowed with information-processing capacities which bring remote consequences to bear on current behavior. These enable man cognitively to bridge delays between behavior and subsequent reinforcers. These provide the basis for anticipatory thoughts supporting foresightful and insightful action (Bandura, 1974). And since people do not function in isolation, they observe the consequences of others' conduct. From these observed outcomes as well as from their own direct experiences of reward and punishement

they profit and learn (Bandura, 1971c).

External consequences exert tremendous influence on behavior when they are compatible with those that are self-produced. This is evidenced by people selecting associates who share similar standards of conduct, thus strengthening their own system of self-reinforcement. Bandura maintains that example and precept impart standards of conduct that serve as the basis for self-reinforcing reactions (Bandura, 1971c; Thoresen & Mahoney, 1973).

Although self-reinforcing influences regulate conduct, Bandura contends, however, that people do not act in ways they ordinarily consider evil or harmful until such actions are construed as serving moral purposes. People will perform behavior they normally repudiate, he adds, if a legitimate authority sanctions it and acknowledges responsibility for such consequences (Kiester & Cudhea, 1974). In other words, "Whatever their orientations, people model, expound, or reinforce what they value" (Bandura, 1974, p. 869).

Briefly stated, Bandura's model of man is the product of the following constituents:

> . . . reciprocal interaction of external circumstances with a host of personal determinants including endowed potentialities, acquired competencies, reflective thought, and a high level of self-initiative. (Bandura, 1974, p. 867)

Bandura's Modeling Approach

Bandura has based his theoretical framework on social learning theory (Hankins, 1973; Gorman, 1974). Social learning, he claims, "is not a system of ethics; it is a system of scientific principles that can be successfully applied to the attainment of any moral outcome" (Bandura, 1965, p. 112). It includes within its

structure both the processes internal to the organism as well as performance-related determinants (Bandura, 1975). The principle involved in this approach is further explained:

> Although it is generally assumed that social behavior is learned and modified through direct reward and punishment of instrumental responses, informal observation and laboratory study of the social learning process reveal that new responses may be rapidly acquired and existing behavioral repertoires may be considerably changed as a function of observing the behavior and attitudes exhibited by models. (Bandura, Ross & Ross, 1963, p. 369)

Laboring through Bandura's voluminous scientific treatises on modeling, one readily notes the psychologist's wholehearted espousal of a behavior theory based on experimentation involving both social and learning variables. The thematic thread running through his conceptualizations cannot escape notice. This dominant theme is repeatedly expressed in a tripod, as it were, of three processes: vicarious, symbolic, and self-regulatory (Bandura, 1971a; 1971b; 1974; 1975).

Bandura holds that human thought, affect, and behavior are influenced by observation. He places considerable stress on changes in response potential without the response actually occurring. He states:

> New responses may be learned or the characteristics of existing response hierarchies may be changed as a function of observing the behavior of others and its responding consequences without the observer's performing any overt responses himself or receiving any direct reinforcement during the acquisition period. (Bandura & Walters, 1963, p. 47)

When a model displays an unfamiliar sequence of behaviors before an observer, the modeled stimuli elicit sensory experiences in the latter. These experiences, Bandura explains, are converted into retrievable images of the modeled behavior and allow the

observer to match the behavior at a later time (Bandura, 1965; 1971c). He maintains that acquisition of a complex unfamiliar behavior sequence, verbal or nonverbal, can be accomplished easily by even young children without the benefit of practice or external reinforcement. Hence, it is possible for a child to learn how to put together a simple puzzle merely by watching another person do it (Schwitzgebel & Kolb, 1974).

In his formulation Bandura makes a clear distinction between acquisition and performance. The difference is stated in this way:

> The acquisition of imitative responses results primarily from the contiguity of sensory events, whereas response consequences to the model or to the observer have a major influence only on the performance of imitatively learned responses. (Bandura & Walters, 1963, p. 57)

In this mode, a person can read about pickpocketing, and he can learn how to do it. But this does not guarantee that he will do it. In fact, if he happens to observe a pickpocketing scene during which the pickpocket is fatally shot, the observer might be even less likely to do any pickpocketing than before he observed the deviant act.

Affecting both acquisition and performance, a vicarious learning event is defined as one

> . . . in which new responses are acquired or the characteristics of existing response repertoires are modified as a function of observing the behavior of others and its reinforcement consequences, without the modeled responses being overtly performed by the viewer during the exposure period. (Bandura, 1965, p. 3)

Indeed, Bandura treats the modeling array as a source of information from which the observer acquires representations of the events demonstrated. Every vicarious learning event, he says, provides:

> . . . (1) information concerning probable reinforcement contingencies, (2) knowledge about the controlling environmental

> stimuli, and (3) displays of incentives possessing activating properties. . . . (Bandura, 1965, p. 31)

Alford and Rosenthal (1973) state that an informational, social learning interpretation implies that if target behaviors are displayed by a model, an observer may be able to induce and match conceptual properties without directly witnessing the process and response typography through which the resulting products have been created.

From this perspective, McLaughlin and Brinley (1973) call Bandura's approach a mediational model of imitation which emphasizes the prominent role of symbolic or representational responses. Liebert and Swenson (1971) label the theory associative. Both, as will be seen, seem to be justified in their observation.

Bandura proposes that, by contiguity, modeling stimuli are perceptually conditioned to covert mediational responses in the observer. After symbolic coding, the observer is then able to reproduce substantial portions of the modeled display. In the symbolic coding process, both imaginal and verbal representations are assumed to be established. Modeling stimuli which have been coded into images or words for memory representation function as mediators for subsequent response retrieval and reproduction (Bandura, 1969; 1971a).

A covert response is the process of mentally reviewing event consequences without actually producing the behavior. An overt response involves the actual reproduction of the behavior. Bandura elaborates further:

> Reproduction of matching responses, either on an overt or covert level, also provides the observer with opportunities to identify

> the response elements that he has failed to learn and thus to direct his attention to the overlooked modeling cues during subsequent exposure. (1969, p. 40)

Bandura suggests that man's self-directorial capacities enable him to select, organize, and transform stimuli. In other words, man can code symbolically. "Symbolic coding is the process of developing short key phrases that are highly descriptive of the operations to be recalled" (Hartjen, 1973, p. 3). Observers, Bandura further suggests, tend to

> . . . code, classify and reorganize elements into familiar and more easily remembered schemes . . . translating action sequences into abbreviated verbal systems and grouping constituent patterns of behavior into larger integrated units. (Bandura, 1969, pp. 140-141)

In addition to the symbolic representation of images, Bandura (1971a) has proposed that the process of observational learning entails verbal representation of the modeled event. In a study designed to compare the effectiveness of three forms of recall of observed behavior, Gerst (1971) found symbolic coding to be superior to visual imagery and the use of concrete verbal terms. He concludes that observers who use concise labels of the modeled event retain precise details of the event longer than those who utilize the other two processes.

Thus, as Bandura similarly concludes, imaginal and verbal representations of modeling stimuli constitute the enduring products of observational experience (Bandura, 1969; 1971a; 1971b; 1971c; 1974; 1975).

Component Subprocesses

To Bandura, the observational learning issue that is more interesting and crucial than the enactment or reinforcement paradigm is the question of whether one can keep people from learning what they see. To him, understanding how people learn to imitate is a matter of understanding how the requisite subfunctions develop and operate. These four component subprocesses which evolve with maturation and experience are:

> (a) attentional functions regulate sensory input and perception of modeled actions; (b) through coding and symbolic rehearsal, transitory experiences are transformed for memory representation into enduring performance guides; (c) motor reproduction processes govern the integration of constituent acts into new response patterns; and (d) incentive or motivational processes determine whether observationally acquired responses will be performed. (Bandura, 1974, p. 864)

Attentional processes include such variables as rules for establishing attention by informing the subject in advance what discriminations he is to make, providing an array of models if fine discriminations are to be made, and repeating presentations when complex behavior is being observed (Bandura, 1969; 1970).

Bandura has identified four variables that affect the ability of an observer to retain in memory the modeled events. These variables--symbolic coding, cognitive organization, covert rehearsal, and overt rehearsal--have already been discussed. However, it must be stressed that this does not infer that every behavioral act observed is retained intact. Instead, the observer abstracts "common features from a variety of modeled responses and constructs higher-order codes that have wide generality" (Bandura, 1971c, p. 21).

Besides the "availability of essential component responses"

(Bandura, 1971a, p. 22), the variables of motoric reproduction processes include the possession of the physical capabilities to perform the behavior, and the accuracy of feedback to the observer.

Bandura (1971a) has demonstrated that ". . . the introduction of positive incentives promptly translates observational learning into action . . ." (p. 22). Within the domain of motivational processes, three types of reinforcement have been identified: direct or external, vicarious, and self. The last two play an important role in Bandura's modeling theory.

Vicarious reinforcement is the process by which an observer imaginatively participates in the gratifying experiences of the model. Self-reinforcement involves internalized satisfaction for meeting aspiration levels which a person has established for himself. The study by Bandura and Kupers (1964) strengthens the hypothesis that patterns of self-reinforcement can be acquired imitatively through exposure to models.

The capability for observational learning, therefore, is developed by acquiring skill in discriminative observation, in memory encoding, in coordinating ideomotor and sensorimotor systems, and in judging probable consequences for matching behavior. Bandura claims that, studied from this perspective, observational learning emerges as "an actively judgmental and constructive, rather than a mechanical copying, process" (1974, p. 864).

Outcomes of Modeling Influences

It seems reasonable to conclude that the important contribution of the modeling theory is in its explanation of how behaviors

are acquired and learned initially. Exposure to these behavioral chunks, exhibited by real-life and symbolic models, spawns three broad categories of effects (Bandura, 1962, 1965; 1969; 1971a). Briefly, they are:

1. Modeling effects refer to new or unique responses that did not previously exist in the observer's behavior repertoire. By novel is meant any behavior that has a very low or zero probability of occurrence given the appropriate stimulus conditions. A sixteen-year-old learning how to drive a car shows these effects.

2. The strengthening or weakening of observers' inhibitions of existing behaviors as a result of their exposure to the behavior of others is classified inhibitory or disinhibitory. The tendency of children to be afraid of the same objects feared by their parents is an example of the inhibitory response. The disinhibitory effect is seen in people who practice aggression after observing television characters display the deviant behavior freely.

3. Sometimes the model displays behavior that triggers a response that has been rather dormant in the observer's repertoire. No new responses are acquired, and the exhibited responses do not involve punishments. These are referred to as response-facilitation effects. Volunteering one's help or contribution to a cause is often explained in this manner.

A Note on Maladaptive Behavior

A discussion of Bandura's modeling theory would be incomplete without mentioning his conceptualization of the acquistion and maintenance of abnormal behavior. Bandura does not consider behavior

deviation derivatives or symptoms of underlying pathological forces. Instead,

> . . . so-called symptomatic behavior is viewed not as emotional disease manifestations but as learned reactions which can be modified directly by the provision of appropriate social models, and by the manipulation of response-reinforcement contingencies. (1962, p. 298)

In his characteristic optimism, the chief proponent of modeling predicts that

> The day may not be far off when psychological disorders will be treated not in hospitals or mental hygiene clinics but in comprehensive "learning centers" where clients will be considered not people suffering from hidden psychic pathologies but responsible people who participate actively in developing their own potentialities. (1967, p. 86)

The foregoing concepts constitute the basic tenets of Bandura's observational learning theory, a theory that has been well received in the field of psychology. Bandura not only formulated these suggestions but also set out to verify them in laboratory and field experiments. His program of research focusing on this goal is the subject of the next chapter.

Summary

The application of learning concepts to behavior change is a significant innovation in the field of behavior modification. Evolving from imitation concepts over the years, modeling or observational learning specifies the conditions involved in the process of learning by observing. Although viewpoints differ on this subject, Bandura's is best able to cope with the existing diversity.

Bandura maintains that virtually all learning occurrences stemming from direct experience can take place through observing other people's behavior and its outcomes for them. Much social

learning transpires through imitation of real-life and symbolic influencers, which he calls models.

In Bandura's opinion, the modeling situation is a source of information from which the observer acquires imaginal and verbal representations of events demonstrated. New responses may be learned or existing ones changed without the observer performing any of them overtly or immediately. This acquistion is possible because man is equipped with capacities which enable him to process, symbolically code, cognitively organize, and rehearse stimuli.

While observing a model may enable him to acquire novel behavior, strengthen or weaken his inhibitory responses, or elicit previously learned behavior, the amount of imitating man does is affected by internal and external variables.

CHAPTER VI

THE EXPERIMENTAL EVIDENCE

This chapter brings together a chronological resume of Bandura's research projects during a period of fifteen years from 1960 to 1975. It also attempts to integrate the suggestions or concepts which have emerged from such studies. Because the techniques of research used were very diverse, they are described in the contexts of the findings presented.

The Impetus

What kind of models do children choose to imitate? Under what environmental contingencies will performance be facilitated by modeling rather than by procedures such as chaining and shaping? Can deviant behavior be modified by substituting more socially acceptable models? How well can vicarious training procedures produce social skills or abstract learning?

In an effort to find answers to questions such as these, Bandura conducted a series of studies on imitative behavior. Performed in natural field settings, in the laboratory, and in the clinic with children and adolescents, these studies have provided empirical support for observational learning principles accounting for the development and modification of conforming and nonconforming social behavior. Unlike many other learning theorists who have written about social behavior, Bandura has done extensive investiga-

tions primarily on people. Largely under the impetus of his work, numerous experiments in recent years have attempted to document the assertion that the behavior of models induces a similar type of conduct in observers (Travers, 1972).

About seventeen years ago Bandura, with his associates, launched his research project series on modeling techniques at Stanford University (MacMillan, 1973). Not uncritical of prior application of learning thoery, he felt that in some cases operant conditioning was detailed, demanding, and tedious in developing novel behavioral repertoires (Bandura, 1971c).

It is also probable that modeling studies on infrahumans (Warden, Fjeld & Koch, 1940; Warden & Jackson, 1935) impelled Bandura to probe into modeling and its potentials on humans. Rhesus monkeys were trained through operant techniques to solve various problems and were then used as models for naive monkeys. The naive monkeys solved 76 percent of the problems through this no-trial imitative procedure. The success, it seemed to him, should certainly be greater in man (Bandura, 1969).

Moreover, Bandura recognized the vital role of childhood and adolescent learning experiences, both in the home and in extrafamilial social settings, for the eliciting, shaping, and maintaining of behavior patterns (Bandura & Walters, 1963). It was in this context that his initial experiment on aggression was performed. Since then, he has maintained a systematic program of research, testing the conditions under which modeling procedures facilitate the emission of particular behaviors. In the remainder of this chapter his research is reported and summarized chronologically.

1960

In a field study on the relationship of family patterns to child-behavior disorders, Bandura (1960) compared the child-rearing procedures of aggressive and inhibited boys. Samples of children who displayed extreme aggressive and withdrawn response patterns were selected on the basis of careful behavioral observations. Although neither group of parents was particularly rejecting, considerable differences were found between the two groups in their training practices and modeling behavior.

Parents of the inhibited children were noted to be generally more inhibited and controlled in their behavior than were the relatively expressive and impulsive parents of the aggressive boys. The data also indicated that the parents of the aggressive boys permitted a great amount of sibling aggression and encouraged and rewarded their sons' behavior. By contrast, the parents of the inhibited boys exhibited a generalized nonpermissive and punitive attitude toward aggression.

The correlational data obtained from this investigation indicated that sex-anxious parents had boys who were both guilty about sex and exhibited anxiety about relating dependently to people. Although finding out what the relation is between sex anxiety and affectional relations toward other adults was not part of the study, it was presumed that the presence of the former hindered the formation of the latter.

On the other hand, it was especially noted that the parents of the inhibited boys displayed interrelated characteristics, including general emotional inhibition and dependency responses

directed toward other adults. Their children, in turn, showed a similar behavior pattern which undoubtedly was learned from the modeled behavior of their parents.

1961

The first of two experiments in 1961 dealt with identification as a process of incidental learning. Through this study Bandura and Huston (1961) provide evidence that modeling may be enhanced by the affective valences of models as mediated through their rewarding and nurturant qualities. Two groups of nursery-school children were chosen. One group experienced a highly nurturant and rewarding interaction with a female model. For the second group the same model behaved in a distant, nonrewarding manner.

After the social interaction sessions the children got busy with a discrimination problem. While at work on this, they were given the opportunity to observe an adult going through various unusual and striking actions unrelated to the children's tasks. Half of the children saw one set of actions and half saw a different set.

Except for aggressive responses, which were readily reproduced regardless of the nurturant quality of the model, children who interacted warmly with the model imitated her performance to a greater degree than did those who experienced unrewarding conditions with the same model. Moreover, both groups of children later imitated what they had seen, behaving differently since they had observed different behaviors.

The question, however, might reasonably be raised: Are the effects of these relatively brief interactions comparable to the

effects of more sustained and complex relationships? In spite of this reservation, this study does point out the extreme susceptibility and responsiveness of children to adult reactions in their immediate environments.

In the second study Bandura, Ross, and Ross (1961) tested nursery-school children for delayed imitation of deviant models in the absence of the models. One group of children was exposed to aggressive adult models and a second group to nonaggressive and inhibited models. Half the children in each of these conditions observed models of the same sex as themselves, while the remaining children in each group observed models of the opposite sex.

Unusual forms of physical and verbal aggression toward a large inflated plastic doll were displayed by the model for the aggressive-model group. The nonaggressive-model group, in contrast, observed an adult who sat very quietly, totally ignoring the doll and the instruments of aggression in the room. After exposure to the models, all the children were mildly frustrated and measures were obtained of the amount of imitative and nonimitative aggression they exhibited with the model absent.

As reported by the experimenters, three significant findings emerged from this study. First, the aggressive-model groups displayed a great number of precisely imitative aggressive responses, whereas the nonaggressive-model group exhibited the inhibited behavior characteristic of their model. Second, boys showed significantly more imitative aggression than girls, but the sexes did not differ in the extent to which they reproduced the model's verbal aggression. Third, the boys who were exposed to an aggressive male model exhib-

ited significantly more imitative and nonimitative aggression than did the girls who were exposed to the male model.

Thus, the male model appeared to be a more potent influence on male subjects than was the female model. The overall results demonstrated that children exposed to aggressive models generalized these aggressive responses to a new setting.

1962

In another laboratory experiment Bandura (1962) showed the influence of rewarding and punishing consequences to the model on the acquisition and performance of imitative responses. Children observed a film-mediated model who exhibited novel aggressive responses accompanied by distinctive verbalizations. The model was shown in three different conditions of the experiment: severely punished, generously rewarded with approval and food reinforcers, and presented with no-response consequences. During the acquisition period the children neither performed any overt responses nor received any direct reinforcement.

Two significant results were revealed by a postexposure test of imitative behavior. Children in the model-punished condition performed significantly fewer imitative responses than children in both the model-rewarded and the no-response consequences groups. Also noted was the boys' reproduction of more imitative responses than girls', the differences being particularly marked in the model-punished condition.

All three groups of children were then offered attractive incentives upon the reproduction of the model's responses. The out-

comes revealed that the introduction of positive responses completely obliterated the previously observed differential performance, disclosing an equivalent amount of learning among the children in the three conditions. Similarly, the sex difference was substantially reduced. It was also noted that some children failed to reproduce all of the model's responses. These data seem to indicate that factors other than sensory stimulation affect response acquisition of modeled behavior. Furthermore, the overall results compel one to make a distinction between learning the behavior of a model and performing it. Apparently all three groups had equally learned the distinctive behavior of the model, but those who had seen the behavior punished were less disposed to perform it overtly. Vicarious reinforcement seems to have some differential effect on performance but none whatever on learning.

1963

Four modeling studies were published in 1963. In the first investigation Bandura, Ross, and Ross (1963a) demonstrated the comparative effects of real-life models, human film-aggression, and cartoon film-aggression on preschool children's aggressive behavior.

Children in the human film-aggression condition saw a movie showing the adults who had served as the male and female models in the real-life condition (Bandura, Ross & Ross, 1961) display aggression toward the inflated doll. Subjects in the cartoon-aggression condition observed a cartoon character do the same aggressive response as the human models did in the two other conditions. Measures of the amount of imitative and nonimitative aggression portrayed

by the subjects in the absence of the models were then obtained.

The results indicated that film-mediated models were as effective as real-life models in transmitting deviant patterns of behavior. The report also disclosed that the children who had recently seen aggression on film reacted aggressively to mild frustration more frequently than did those who had not had prior exposure to aggressive models. Moreover, a strong possibility was suggested that aggressive children learned by the example of their parents and by the example of aggression shown in the mass media.

In the same type of experiment Bandura, Ross, and Ross (1963b) utilized children who had viewed films in which the model was punished for his aggressive acts. These children tended to respond with less aggression. The findings of this later study suggested that the influence of models--either by the administration of punishment to the model or by the presentation of incompatible prosocial examples of behavior--could vicariously transmit control over aggression. However, there were indications that viewing films and television programs of aggressive content, supposed to be catharsis techniques in dealing with aggression, may actually be teaching what they purport to control through reinforcement.

Another experiment (Bandura & McDonald, 1963) with children within this period revolved around Piaget's concept of the development of moral judgment. According to Piaget (1959) moral orientations emerge in children at specific ages. In the first seven years children tend to judge an act as morally wrong in terms of material damages involved. After this age they tend to judge an act by its intent.

In three treatment groups the experiments attempted, either through reinforcement, or by reinforcing a model, or a model and children, to get the children to make judgments that were in the opposite direction from those they had made in the initial testing session. After the experimental treatment each child was asked to make judgments on a set of stories without a model being present and without reinforcement.

The experimenters found that children could be taught to judge subjectively at younger ages by the use of adult models. Contrary to Piaget's development scheme, the children's evaluative statements were like those of the subjective models. Conclusively, the results showed that the behavior of the model was a more powerful influence in the behavior of children than were the reinforcements they received.

The fourth study in 1963 compared the status envy, social power, and the secondary reinforcement theories of imitative learning. Bandura, Ross, and Ross (1963c) employed triads representing prototypes of the nuclear family. The essential figures were a child who observed, an adult who controlled the use of magnificent toys, and a second adult. The two treatment conditions of the experiment simulated two kinds of families--husband-dominated and wife-dominated. The children were divided into two groups. In the first condition each child from one group acted as a participant observer in the triad; in the second condition, each child from the second group was a recipient of resources.

In both treatment groups the model with social power, the control of the toys, was imitated to a much greater extent than the

adult who received the toys. It did not seem to make much difference whether the child or the second adult received the toys. The controller was imitated to an equal degree in the two conditions.

In addition, power inversions on the part of the male and female adult models produced cross-sex imitation, especially in girls. The girls showed a greater readiness to imitate the behavior exhibited by an opposite-sex model. It was also noted that although children adopted many characteristics of the resource-controlling model, they also reproduced some behavioral elements displayed by the model with a subordinate role. In other words, relatively novel behavioral patterns representing a combination of elements from both models were exhibited by the children.

1964

The hypothesis that patterns of self-reinforcement are acquired by imitation first received attention in an experimental study by Bandura and Kupers (1964).

Eighty girls and eighty boys, between seven and nine years of age, participated in a bowling game involving a series of differential self-reinforcement tasks, self-evaluative responses, and levels of performance. The children were subdivided into male and female subjects and randomly assigned to sixteen experimental subgroups of eight subjects each. The control group consisted of sixteen boys and sixteen girls. Half in the experimental groups were exposed to peer models and half to adult models. The control subjects, with no prior exposure to the models, were tested only on the self-reinforcement tasks.

A postexposure test revealed that the children's patterns and magnitude of self-reinforcement closely matched those of the model whom they had observed. The control group, who had no exposure to models, set no standards for themselves and tended to reward themselves for minimal performance. Furthermore, a comparison of the results with adult and peer models provided strong support for the hypothesis that adults generally serve as more powerful modeling stimuli than peers in transmitting standard-setting behavior and self-reinforcing patterns.

1965

In 1965 the first of two studies (Bandura, 1965) bears on the acquisition-performance distinction (see p. 82) that Bandura stresses a great deal of his theoretical framework. Children were exposed to a filmed model who exhibited a sequence of novel physical and verbal aggressive behavior in three treatment conditions. The first condition presented severe punishment to the model after his display of aggressive behavior. In the second, the model was rewarded with generous praise and good food. No-response consequences were applied to the model in the third condition.

A postexposure performance test of imitation revealed differential degrees of matching behavior among the three groups. A significantly greater variety of imitative responses, however, was performed by the subjects in the model-rewarded and the no-consequence groups. The model-punished treatment group also disclosed boys reproducing substantially more of the model's behavior than girls did.

After the performance test, children in all three treatment groups were presented very tempting incentives based on their reproduction of the modeled behavior they had observed. The findings revealed an equivalent amount of learning among subjects in the three treatment conditions, and the large sex differential was virtually eliminated. This study is suggestive of the necessity for additional research to explore the conditions under which imitation occurs in the absence of specific reinforcements to the observer. It underscores, however, the extreme sensitivity of children to others' behavior and their capability of elaborate response combinations if appropriately reinforced.

The second study (Bandura & Mischel, 1965) illustrated the efficacy of modeling procedures for developing generalized conceptual and behavioral propensities, especially the modification of delay-of-gratification patterns. The model and the observers in this experiment responded to entirely different sets of stimuli in the social-influence setting. Tests for generalized modeling effects were conducted by different experimenters, in different settings, with different stimulus items, and with the model absent.

The findings lent support to the assumption that matching performances can be readily achieved in the absence of the model, if the essential features of his behavior are accurately depicted either verbally or pictorially.

1966

A number of studies were done in 1966. The first was an attempt to determine to what extent observed emotional reactions

generated by rewarding or punishing experiences of the model function as motivators of behavior in the observer (Bandura & Rosenthal, 1966).

Groups of adults were subjected to differential degrees of emotional arousal. This was manipulated both psychologically and physiologically through the administration of varying doses of epinephrine. Then the adults observed another person undergoing aversive conditioning experiences. In this phase a buzzer sounded at intervals. Shortly after, the model pretended to experience pain, supposedly in response to having received distressing electric shocks.

The frequency with which the observers manifested conditioned galvanic skin responses to the buzzer was found to be a positive function of the degree of psychological stress. However, as subjects expressed increasing physiologically induced arousal, a monotonic decreasing function was obtained. This study provides evidence for the idea that emotional arousal is a significant determinant of vicarious conditioning and that it can "alter perceptual thresholds, and in other ways facilitate, impede, and channel observing responses" (Bandura, 1969, p. 137).

The second study during this year dealt with the influence of antecedent reinforcement and divergent modeling cues on patterns of self-reward (Bandura & Whalen, 1966). Particularly, it investigated the independent and interactive effects of prior reinforcement history for achievement behavior and degree of difference in ability from comparison models. The results showed that at a high level of complexity observers can acquire standards for self-reinforcement and self-evaluative responses through exposure to the behavior of models.

The third research focused on the modification of syntactic style (Bandura & Harris, 1966). This social language-learning study examined the effects of several social-learning variables on children's production of syntactic constructions. To begin with, the children did not have a formal grammatical knowledge of the passive and prepositional syntaxes chosen for modification. After a series of verbal modeling cues, the subjects modified and increased their utterances congruent with the rules of these linguistic features.

The results demonstrated that children exposed to modeling influences combined with attention-focusing and reinforcement procedures gained a greater increment in their syntactic discriminability than did a control group.

The value of symbolic coding operations and of organized stimulus input in the acquisition and retention of modeled responses was the subject of the fourth experiment in 1966 (Bandura, Grusec & Menlove, 1966). Children observed several complex sequences of modeling behavior on films. During this time of exposure they either viewed attentively, verbalized the novel responses as the model displayed them, or counted rapidly while watching the film.

Following this, a test of observational learning was taken. The findings revealed that significantly more modeling responses were reproduced by the subjects who verbally labeled the modeled behavior patterns than those who simply watched them. The viewers-only subjects, in turn, demonstrated a higher level of acquisition than those who engaged in associative interference.

This study lent support to the theory that observer characteristics can serve as determinants of observational learning.

Furthermore, modeling cues presented in smaller units and at spaced sequences are much less susceptible to memory loss.

1967

Three experiments were reported in 1967. The first (Bandura, Grusec & Menlove, 1967) was on phobic behavior, which set the course of a research series designed to throw light on the phenomenon of vicarious extinction. Forty-eight children with dog phobias were grouped into four treatment conditions. The first group observed a fearless peer model exhibit progressively more fear-evoking interactions with a dog within a party context. The second group witnessed the same performance but in a neutral context. The third group observed the dog in a pleasurable setting, but with no peer model. The fourth group participated in delightful activities without the dog or peer model.

All groups benefited from these treatment procedures in that they showed a reduction in avoidance behavior in the presence of the test dog and an unfamiliar dog a month later. However, both modeling conditions led to significantly greater and more stable improvement. Perhaps a question can be raised at this juncture: What is reduced through the observation of the model--avoidance responses, internal anxiety associated with those responses, or both? The answer does not seem to be clear.

Another study on social determinants of self-monitoring reinforcement systems was done in 1967. In this particular experiment (Bandura, Grusec & Menlove, 1967b) the rewarding qualities of the model and social reinforcement of the model's standard-setting

behavior were focused upon.

That modeling can be augmented by increasing the rewarding qualities of a model or by having the observer witness the model experience rewarding outcomes is upheld by research evidence (Bandura, 1971a). However, this second investigation in 1967 showed that even though a model's rewarding qualities were equally associated with the different types of behaviors he performed, modeling effects tended to be specific rather than general. In other words, "model nurturance enhances the reproduction of some responses, has no effect upon others, and may actually diminish the adoption of still others" (Bandura, 1969, p. 131).

To find out the relative efficacy of self-monitored reinforcement and externally-imposed systems of rewards, Bandura and Perloff (1967) performed an experiment on four groups of children. These children worked at a task in which progressively high scores could be achieved by their increasing performances of effortful responses.

The four groups were those who chose their own achievement norms and rewarded themselves whenever these prescriptions were met, those who were matched with the self-reinforcement group and were automatically rewarded on their attainment of the predetermined level, an incentive-control group who performed the task after the receiving of rewards on a noncontingent basis, and those who worked without any reinforcement to determine behavioral productivity. The dependent measure was the number of responses the children performed until they no longer wanted to keep on with the activity.

As recorded by the experimenters, behavior productivity was

more substantial in the self-rewarding and externally-imposed reinforcement groups than in either the noncontingent or the non-reward systems. The flashpoint in this study, however, was that the self-rewarding subjects imposed upon themselves highly unfavorable performance demands in the absence of close supervision and under high permissiveness for self-reward.

1968

In a second study on anxiety disorders, particularly the extinction of children's fear of dogs, Bandura and Menlove (1968) compared the effects of various symbolic modeling techniques on dog-avoidance behavior. The subjects in this study were forty-eight three- to five-year-olds. One group of children watched films of a fearless male model dispiay progressively fear-provoking interactions with a dog. The second group watched films of the multiple-model display and observed several different girls and boys of varying ages interacting positively with many dogs. A third group of children, serving as controls, was shown films without dogs in them.

After therapy a significant reduction in fear was found among children in the treatment conditions. There was no difference upon follow-up of the multiple-versus single-model condition. Based on these and other data in which he compared real-life modeling with symbolic modeling, Bandura's conclusion was that in vicarious extinction "symbolic modeling is less powerful than live demonstrations" (Bandura, 1969), p. 131).

1969

To test the efficacy of modeling- and desensitization-treatment approaches for producing behavioral, affective, and attitudinal changes, Bandura and his associates embarked on the third project on anxiety disorders (Bandura, Blanchard & Ritter, 1969).

Adolescent and snake phobics who were unnecessarily and adversely affected in various ways were employed as participants. To start with, a behavioral test to measure the avoidance of snakes and a comprehensive fear inventory were taken of the subjects. On the basis of their avoidance behavior the participants were individually matched and assigned to one of four conditions: the self-administered symbolic modeling treatment where subjects observed a film showing young children, adolescents, and adults engaging in progressively threatening interactions with a large snake; the combined treatment of graduated modeling with guided participation, the standard form of desensitization treatment devised by Wolpe (1958), and the control group who participated in the assessments without intervening treatments.

As recorded, subjects showed a progressive decline in fear arousal with each successive exposure to modeled approach behavior. Subjects who combined symbolic modeling with relaxation experienced a greater fear reduction on the second exposure to aversive scenes than those who received symbolic modeling treatment alone. Although the researchers concurred that further investigation was needed to clarify the mechanisms involved in modeling procedures achieving extinction effects, the findings suggested tentative support of the merits of modeling in conjunction with desensitization treatments.

1971

People may fail to imitate modeled performances within their capabilities for a number of reasons. A study by Bandura and Barab (1971) which measured imitation as a function of differential consequences conveyed by model characteristics and features of the behavior itself shed light on this view.

Grossly retarded children who had exhibited no matching behavior even when prodded to do so promptly imitated every modeled response. That was when rewards were changed and when a familiar person demonstrated the behavior.

This experiment strengthened the assumption that "the same behavior may be rewarded, ignored, or punished depending upon the person toward whom it is expressed, the social setting in which it is exhibited, temporal considerations, and many other factors" (Bandura, 1971a, p. 53).

1973

Bandura and Jeffery (1973) investigated the effects of symbolic coding and different types of rehearsal of retention of observationally learned responses over varying temporal intervals. Forty-four males and forty-four females were randomly assigned to nine experimental and two control groups of eight subjects each. The highest level of response retention was attained by subjects who coded the model's actions verbally or numerically at input and immediately rehearsed the memory codes from which the behavior could be reconstructed.

Both coding and symbolic rehearsal emerged as critical

determinants of delayed imitative performance. Neither coding without rehearsal of the codes in immediate memory nor rehearsal without coding improved retention of modeled behavior.

Further tests conducted a week later indicated that symbolic coding remained as a significant determinant of matching performance. The facilitative effects were attributed to codes that previously existed in the subjects' permanent memory.

The findings demonstrated the importance of symbolic processes in determining both the level of observational learning and retention of modeled responses over time. These could also be interpreted as supporting an observational learning view which stresses central processing of response information in the acquisition phase and motor reproduction and incentive processes in the performance of what has been learned.

1974

Bandura, Jeffery, and Bachicha (1974) hypothesized that memory codes combining meaningfulness with retrievability would produce the superior memory performances of modeled response. They also predicted that cumulative rehearsal would improve their retention, the effect being greatest for the items rehearsed more often.

Subjects, divided into three treatment groups, observed a model perform complex movement configurations. One group constructed mnemonic sentences describing the essential features of the modeled patterns. The second group assigned preselected letter associates to each component response as it was modeled. They also stored the patterns in memory as meaningless aggregate letter codes.

The third group transformed constituent acts into corresponding letters, then constructed mnemonic sentences whose words began with the code letters. A test for observational learning followed, and subjects in all conditions either cumulatively rehearsed the codes or had no opportunity to reinstate symbolically what they had seen. Then response retention tests were conducted at the end of the experimental session and again a week later.

The data revealed that modeled responses were learned and retained much better in meaningful linguistic codes, and that the performances associated with meaningful representations exceeded those encoded in less meaningful or complete forms. The experiment provided corroborative evidence that cognitive factors play an especially important role in modeling when retention over time is required.

1975

The last study in this summary report (Bandura, 1975) presents modeling in combination with guided participation for eliminating defensive conduct. The experiment was designed to test the efficacy of participant modeling approaches when powerful induction procedures for creating change were combined with self-directed performance (Bandura, Jeffery & Gajdos, 1975).

Subjects whose functioning was handicapped by their snake phobia were recruited through advertisements placed in community newspapers. Of the thirty who participated, four were females and the rest were males. They came from different backgrounds and ranged in age from fourteen to forty-eight years. It was predicted

that self-directed performance would enhance self-competency and produce more generalized reductions in phobic behavior and fear arousal than would participant modeling alone. The phobics received participant modeling alone or participant modeling followed by self-directed performance with either familiar or varied threats.

Bolder behavior toward an unfamiliar threat, weaker fear arousal, less apprehension of snake encounters, higher self-competency in coping with snakes, and less fear of threats not specifically treated were exhibited by subjects who had the benefit of participant modeling and independent mastery experiences.

The findings attest to the substantial therapeutic gains from self-directed performance after behavioral functioning has been restored through participant modeling. They also indicate that environmental contingencies are not autonomous influences that inevitably impinge upon individuals to shape and control their behavior.

Summary of Findings

Behavior learned through observation is admittedly a complex process. What is presently known about the capacity of the human mechanism in this respect is far from complete. However, Bandura's studies have furnished a considerable body of evidence underscoring the relative merits of modeling in promoting behavior change and identifying important variables related to this strategy. Significantly, his research has buttressed the following concepts:*

*For a similar, although shorter, summary see Bergin's conclusions on pp. 379-80 of Psychology of the Educational Process by Joel R. Davitz & Samuel Ball (New York: McGraw-Hill Book Co.), 1970.

1. Human beings are a source of meaningful stimuli that alter, direct, or maintain behavior.

2. Modeling is a potent means of transmitting or modifying behavioral repertoires.

3. The acquisition of modeled behavior involves different complex variables such as age, sex, cognitive ability, observer characteristics, model characteristics, and so forth.

4. The behavior of children appears to result from an interaction of parents' modeling and other sources of modeling cues in the environment.

5. Symbolic and representational models are nearly equal to real-life models in effecting behavioral patterns.

6. Nurturant and warm models elicit greater observational learning than those who are less accepting and responsive.

7. The behavior of high-status and reward-dispensing models tends to be imitated more than that of models possessing relatively low vocational, intellectual, and social competencies.

8. Observers who initially share common characteristics with a model are more inclined to imitate new responses displayed by the model.

9. Male models tend to be more readily imitated than female models.

10. Reinforcement or incentives influence modeling behavior.

CHAPTER VII

MODELING AS VIEWED BY ELLEN WHITE

This chapter brings together Ellen White's teachings on modeling influences. It is a synthesis of her philosophy of behavioral change, with special attention to the role and power of exmaple.

White's Philosophical Foundation

Ellen White wrote extensively on a broad spectrum of subjects of human concern. Her writings are considered by many as "a veritable encyclopedia on life" (Maxwell, 1973). One of the topics that permeates her works is human behavior. The behavior of which she speaks is for the perfection of a Christian character, the uniting of man with God and his fellow men in a love relationship.

In order for behavior to be distinctly Christian, it must be based on Christian principles. Where do these principles come from? Organizations, tradition, mass media, human examples, and philosophical treatises are among the influences commonly believed to give guidance on how man should conduct himself.

However, White asserts that man's nature, a subject to be treated separately in the next section of this chapter, has been degenerated by sin. Since psychologists, philosophers, scientists, sociologists, and theologians are human, they share the same natural weakness. The can look at man only from within their own limited human experience.

Therefore, the Christian must go beyond the limitations set by man's senses and experience. He must derive his ideals and inspiration from a source that is not inherent in human nature or generated within himself. This guidance system, White states, originates in the character of God as revealed in His word (1904).* It is as the psalmist says, "In Thy light shall we see light" (Ps 36:9).

Although White decried what she often referred to as false philosophy and philosophers (1904), as she interpreted them, she advocated philosophy that conformed to the Bible. In this Book, she points out, God has made a self-disclosure of His nature (1903). This revelation is the standard of Christian behavior. It is "the word of the living God, the word that is our life, the word that is to mold our actions, our words, and our thoughts" (1903, p. 260). Of its value as the essential norm for human conduct, she further says:

> The Bible is the great standard of right and wrong, clearly defining sin and holiness. . . . Used as a textbook in our schools, the Bible will do for mind and morals what cannot be done by books of science and philosophy. As a book to strengthen and discipline the intellect, to ennoble, purify, and refine the character, it is without a rival. . . . Its teachings have a vital bearing upon our prosperity in all the relations of life. (1913, p. 422)

In this context White presented many insights on Christian behavior. Either codified or unformulated, these Biblically based tenets, she maintained, were illuminated by revelations from God (1889).

White's view of human behavior cannot be understood apart from her position on the nature of man and God's purpose for his

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*Sources indicated by dates alone refer to Ellen White's writings. References other than these include the author entry as usual.

life. Unflinchingly she declared that a correct understanding of the great work of education depended upon a true philosophy. She said:

> In order to understand what is comprehended in the work of education, we need to consider both the nature of man and the purpose of God in creating him. We need to consider also the change in man's condition through the coming in of a knowledge of evil, and God's plan for still fulfilling His glorious purpose in the education of the human race. (1903, pp. 14-15)

An examination of present-day publications dealing with the different facets of the human being discloses a range of theories about human nature. In oversimplified terms, these philosophic orientations can be located on three points of a scale. One extreme presented by Rousseau holds that man is essentially good. Having within him self-enhancing tendencies and the seeds of socialization, he is trustworthy, reliable, social, and creative. In terms of native inclination, human nature is positive. It is environment that perverts it (Shertzer & Stone, 1974).

At the center of the scale are the psychologists who see human nature as passive, like a Lockean tabula rasa on which nothing has been written. It is simply a neutral potential for learning and has no inherent propensities in any direction. Man develops behavioral patterns as he reacts to stimuli he encounters in his environment (Skinner, 1971).

Then there are the psychologists represented by Freud at the other end of the scale. Like those on the other extreme, they see man as an active creature with needs and strivings. Unlike them, however, they take a bleak view of man's rationality and volitional capacities. Man is irrational, self-pleasing, inhuman, unsocialized, and aggressive. To allow human nature to develop its potential

would be to encourage antisocial behavior. Therefore, the native endowment must be subjected to considerable restriction through socialization (Gorsuch & Malony, 1976).

What is the nature of man which Ellen White presents?

The Nature of Man

In his original state, man was upright and perfect in every way (1888). Next to angels, man was the noblest of God's created beings (1905). His nature was like that of God, because he was created in the image of his Maker and was endowed with powers like His (1980). Man's mind was well balanced and his aims and thoughts, pure and holy (1898). A free moral creature, man was in complete harmony with his Creator with whom he held happy face-to-face communion. Furthermore, he possessed the possibility of immortal life and continuous advancement (1892).

In the Garden of Eden where the first human couple, Adam and Eve, were provided their first ideal home, the devil appeared. Manifesting himself in the form of a serpent, he tempted the holy pair. Through their own choice Adam and Eve disobeyed the Creator and yielded to evil. Consequently, they had to leave their paradise dwelling in unspeckable sorrow. This fateful chapter in history, referred to as the Fall of Man, marked the change in the human condition (1888).

A train of fatal consequences followed in the wake of man's willful disobedience--the eating of the fruit of the knowledge of good and evil. The mingling of the evil and the good brought confusion to his mind, deadening not only his mental reserves but also

his spiritual forces. Through transgression his "powers were perverted and selfishness took the place of love" (1892, p. 17). The whole human organism was degraded and impaired, rendering the faculties weak and powerless against evil (1904).

By sin man was estranged from God. It would have been eternal alienation and darkness for him except that the Creator, in His all-excelling love, did not give man up to the outcomes of his perverse decision (1890). God sent His only Son, Jesus Christ, to bridge the chasm between heaven and man. Through Christ's sacrifice some ray of divine light shone on every soul. "Not only intellectual but spiritual power, a perception of right, a desire for goodness, exists in every heart" (1903, p. 29).

But over these positive impulses in the human heart a strong opposite power is persistently struggling for dominance. Left alone in its sinful state, "humanity . . . does not tend upward, toward the divine, but downward, toward the satanic" (1890, p. 69). Furthermore, "temptations from without find an answering chord within the heart, and the feet turn imperceptibly toward evil . . ." (1904, p. 312).

The only hope for "escape from the pit of sin in which we are sunken . . . is Christ" (1892, p. 18). He alone can regenerate man's heart and make man victorious over his proclivity to evil. White succinctly depicts man's situation and hope in these words:

> Our natural tendencies . . . have in them the seeds of moral death. Unless we become vitally connected with God, we cannot resist the unhallowed effects of self-love, self-indulgence, and temptation to sin. . . . All our good works are dependent on a power outside of ourselves; therefore there needs to be a continued reaching out of the heart after God. . . . (1904, pp. 315-16)

A more forceful presentation of this unique remedy, found outside of

man but always available if he so desires it, is brought out in the following delineation:

> Our hearts are evil, and we cannot change them. . . . Education, culture, the exercise of the will, human effort, all have their proper sphere, but here they are powerless. They may produce an outward correctness of behavior, but they cannot change the heart; they cannot purify the springs of life. There must be a power working from within, a new life from above, before men can be changed from sin to holiness. That power is Christ. (1892, p. 18)

The transformation of man's heart is, therefore, the initial step in the fulfillment of God's purpose for man's life. When man is restored to harmony with his Maker, he becomes an instrument in drawing his fellow human beings to the Creator. He becomes God's co-laborer in their salvation (1885c). In this plan of Christian service, man is on the way to becoming all that God has made it possible for him to be. Lofty indeed is the expectation for him: "Higher than the highest human thought can reach is God's ideal for His children. Godliness . . . is the goal to be reached" (1903, p. 18).

However, God's ultimate goal for man is beyond description. No human eyes have seen it, no mortal ears have heard it, and no sin-weakened heart has ever conceived it (1 Cor 2:9). Those who will bear the reproduction of His character--love, holiness, justice, mercy--will live with Him throughout unending time. Then His original plan for man, which has been thwarted by sin, will find full realization. "Eternity alone can reveal the glorious destiny to which man, restored to God's image, may attain" (1890, p. 644). A glimpse of this indescribable experience is offered in this paragraph:

> There, immortal minds will contemplate with never-failing delight the wonders of creative powers, the mysteries of

> redeeming love. . . . Every faculty will be developed, every capacity increased. The acquirement of knowledge will not weary the mind or exhaust the energies. There the grandest enterprises may be carried forward, the loftiest aspirations reached, the highest ambitions realized; and still there will arise new heights to surmount, new wonders to admire, new truths to comprehend, fresh objects to call forth the powers of mind and soul and body. (188, p. 677)

The question, however, must be raised: How is man to be an instrument in leading his fellow men to that vital connection with God that they may reproduce His character?

A Power for Blessing

It was God's purpose for man to be a blessing to other human beings. Through Christ he was invested with a power "that makes it impossible for him to live to himself" (1900, p. 339). The good accruing from these person-to-person encounters was intended to be a demonstration of divine character (1885a). White refers to this personal impact as the power of example or influence. God's original plan for this power is clearly stated:

> Personal influence is a power. It is to work with the influence of Christ, to lift where Christ lifts, to impart correct principles, and to stay the progress of the world's corruption. It is to diffuse that grace which Christ alone can impart. It is to . . . sweeten the lives and characters of others by the power of a pure example united with earnest faith and love. (1917, p. 232)

Every person has an influence that affects the destiny of others (1885d). The inevitability of each man possessing some influence and the absence of neutrality in this respect are underscored in this passage:

> There are none who have reasoning faculties who have not some influence. . . . No one occupies a neutral position, doing nothing to encourage others or doing nothing to hinder them. (1885a, p. 485)

White does not offer a technical definition of the terms example or influence, but she employs several down-to-earth illustrations to explain the concept.

A person's influence, she says, surrounds him like "an invisible atmosphere, which is unconsciously breathed in by all who come in contact with him" (1889, p. 111). This atmosphere, she adds, is often charged negatively.

White appropriately compares the extent of a person's influence with scenes and occurrences in nature. Here is an invitation to watch what happens as a little stone is flung into the water:

> Throw a pebble into the lake, and a wave is formed, and another and another, and as they increase, the circle widens, until it reaches our very shore. So with our influence. Beyond our knowledge or control it tells upon others in blessing or in cursing. (1900, p.340)

Drawing another illustration from water, White notes the stream, always partaking of the property of the soil through which it runs. So is one's character invariably tinted by the influence of the company with which he mingles (1930).

Association, which is discussed later in this chapter, is an important aspect of White's philosophy of example. A pictorial device she utilizes to point out its relationship to influence is wax. Just as wax keeps intact the figure of the seal, the human mind retains the impressions of social intercourse. The influence may not be readily or consciously felt, "yet it is no less powerful" (1885d, p. 587).

From the lake and the stream, the attention is called to the field with ripening grain. "Every impulse," she says, "is the seed sown which will produce its harvest. It is a link in the long chain

of human events . . ." (1900, p. 340). Clarifying these statements, she enumerates some specifics--every act, every word, every deed of thoughtful kindness, of obedience, or of self-denial. These are seeds, she says, that bear fruit in others, and through them in still others (1900). On the other hand, "every act of envy, malice, or dissension is a seed that will spring up in a root of bitterness whereby many shall be defiled" (1917, p. 86).

After dwelling on seed sowing and harvest, White focuses on light. Here she touches on the terrifying consequence of a bad example:

> Every life is a light that brightens and cheers the pathway of others, or a dark and desolating influence that tends toward despair and ruin. We lead others either upward to happiness and immortal life, or downward to sorrow and eternal death. And if by our deeds we strengthen or force into activity the evil powers of those around us, we share their sins. (1917, p. 94)

In her presentation of these visual aids on influence, White would not conclude on a gloomy note. She casts her eyes toward the hills and captures the lesson from the setting sun:

> As the glow of the descending sun lights up the mountain peaks long after the sun itself has set behind the hills, so the works of the pure, the holy, and the good shed light upon the world long after the actors themselves have passed away. Their works, their words, their example will forever live. (1890, p. 507)

A positive influence, White argues, does not come about by chance nor is it wrought by man himself. However, when a person has it, "it will be as natural for you to live to bless others, as it is for the rosebush to yield its fragrant bloom or the vine its purple clusters" (1896, p. 175).

Components of Example

A recurring theme in White's philosophy is that personal example is a power that blesses or curses, and cannot perish (1885a; 1885c; 1903). What facets of the personality constitute this personal power?

Observable Factors

Every act, no matter how small, has a bearing upon the future history of a person and others around him (1889). Associated with an individual's acts are his words. On actions and words depend the most important results for good or for evil (1915).

One's looks and the tone of his voice are repeatedly mentioned in White's works as important elements of personal example. These make or mar the happiness of others, especially of children in the family (1902). "The human countenance itself is a mirror of the soul, read by others, and having a telling influence upon them for good or evil" (1885c, p. 523). Moreover, these components are potential vehicles of false impressions, so Christians are urged to be "as transparent as the sunlight" (1896, pp. 101-2).

Unconscious Influence

In the sphere of example there is what White calls unconscious or unstudied influence (1911). The humblest and poorest people may think they are not doing any special good. However, by their unconscious influence, their words, and their consistent deportment they can be a blessing to others (1885c). And they may never know the results until the day of final rewards (1892).

A person's unconscious influence may also include his per-

sonal appearance, manners, and life style (1900). In fact, it involves anything in him and about him (1885b). Upon the impression made by this type of influence "hang results for good or evil which no man can measure" (1900, p. 340). Its power is clearly portrayed in the kind of situation White here presents:

> The unstudied, unconscious influence of a holy life is the most convincing sermon that can be given in favor of Christianity. Argument, even when answerable, may provoke only opposition; but a godly example has a power that it is impossible wholly to resist. (1911, p. 511)

The Dichotomy of Example

Every day one's words and acts make an impression upon those with whom he associates (1889). This would imply that every person serves as a daily model to others in some way, either negative or positive. Although this dichotomy has been touched on earlier, further discussion may be helpful. More light is shed on what comprises either type of influence.

White lists "unbridled tongue, rebellious hearts, frivolity, selfish indulgence, and careless indifference of professed Christians" (1900, p. 341) as among specific elements of negative example. These, she states, turn away many souls from the path of life. One rash act, a thoughtless word, or one blemish on the character may influence a life so deeply that it will mean the loss of a soul (1917). Through his example, an individual who fails to overcome his sin draws others downward with him (1885d). The list is expanded with additional implications:

> One reckless movement, one imprudent step, and the surging waves of some strong temptation may sweep a soul into the downward path. We cannot gather up the thoughts we have planted in human minds. If they have been evil, we may have set in motion a

> train of circumstances, a tide of evil, which we are powerless to stay. (1917, p. 348)

How does a negative influence develop? White holds that a long preparatory process unknown to the world goes on in a person's heart. The indulgence of impure thoughts, the nurturance of an unchristian trait in the life, one cherished sin, or one evil habit little by little debases the character and breaks down the safeguards of the soul (1890). Eventually, the overall results show up as an evil example.

An appeal for careful vigilance of the individual influence issued forth from White's pen after a vision on this subject. She wrote:

> I was shown that as a people we cannot be too careful what influence we exert; we should watch every word. When we by word or act place ourselves upon the enemy's battle ground, we drive holy angels from us, and encourage and attract evil angels in crowds around us. (1885a, p. 360)

By contrast, a positive model helps others in the development of good principles. "He strengthens the good purposes of all with whom he comes in contact. . . . He reveals the power of God's grace and the perfection of His character" (1917, p. 348). In turn, the observers exert the same beneficial influence over hundreds and thousands of others.

For positive modeling White uses several alternate terms such as Christian example, holy life, true godly life (1885d), and Christ-like life (1909). Light emanates from this example and dispels the darkness around. It refines and elevates all who come within its sphere (1885b).

White asserts that the power of a Christian example is

unlimited. The exhibit of one good man's life in a community sheds a light reflected upon untold numbers. His influence is immeasurable, reaching beyond the circle of home and friends and leading others to Christ (1885d). This type of model is the "most powerful argument that can be advanced in favor of Christianity" (1909, p. 21). In eternity alone will its blessed results be estimated (1885b).

Accountability

It has already been stressed that Ellen White teaches that man, regardless of his status in life, exerts an influence upon other men. However, it is not enough, she believes, that man casts an influence for good or evil. Influence is a responsibility, she points out, from which no man can free himself (1900). And with responsibility is accountability. "Ever bear in mind," she admonishes, "that we are accountable for the influence we exert" (1885b, p. 48).

White also emphasizes that no neutrality or middle ground exists in this matter of personal influence. "The teaching of our lives is wholly for or against the truth" (1885d, p. 248). In another reference she puts it this way: "We are either helping souls in the narrow path of holiness or we are a hindrance . . . turning them out of the way" (1885b, p. 48).

However, the thought that gives an awful solemnity to the rendering-of-account phase of personal influence is this: that a careful record of every act, word, and thought is being taken in heaven as though there were only one person in the whole world (1890). An extension of this concept bears on the relation of

one's personal example to the sins of others.

> You are not accountable for any of the sins of your brethren, unless your example has caused them to stumble, caused their feet to be diverted from the narrow path. (1885b, p. 256)

> . . . if your influence makes light of breaking the commandments of God, then you are not only guilty yourself, but you are to a certain extent responsible for the consequent errors of others. (1885d, p. 248)

Sources of Coping Models

That the model does not necessarily have to be a pattern of excellence and perfection has been discussed earlier in this work (see chapter II). Both research and common experience indicate that people naturally conform to standards, values, and attitudes of individuals they admire, respect, or for some other reason want to imitate. The relationship between observer and model influences not only the observer's overt behavior but also his cognitive and affective processes (see chapter V).

Although White stresses that every man is a model, she recognizes that some people are more observed than others by virtue of their position and responsibility. Drawing a line between this type of model and the perfect exemplary model, she maintains that human examples are simply what Sarason and Sarason (1973) call coping models at best. "The coping model is someone with whom the observer can identify and who may even display some responses that the observer sees in himself and doesn't admire" (p. 11). White's works disclose the following as primary coping models: (1) peers and associates, (2) parents and older siblings, (3) significant adults such as ministers, leaders, and teachers, and (4) Bible characters.

Peers and Associates

White states that seeking companionship is natural for human beings, especially for the young. The link between peers and associates is a mysterious one, she says, which "binds human hearts together so that feelings, tastes, and principles of two individuals are closely blended. One catches the spirit, and copies the ways and acts of the other" (1885d, p. 587). The amount of influence which peers will exert over one another for good or for evil is in proportion to their friendship, she adds (1930).

White calls attention to the fact that the Bible places great stress on the influence of association because of its power on the developing character and mind of children and young people (1905). On every hand are youth of questionable morals and of bad principles and practices (1885d). The skeptic, the frivolous, and those of unwise childhood training are always found in schools which are supposed to be for mental culture and discipline (1885c). Through contact with this type of peers many youth lose the virtues carefully and prayerfully taught them by their Christian parents (1930).

In contrast, there are many young people who in their deportment and character reflect the peace and happiness they have found in Christ. These students "exert an influence over their fellow students which will tell upon the entire school" (1913, pp. 98-99).

The young have great potential, White affirms. If they make it their goal to exercise and develop the abilities with which God has endowed them, they might have an elevating influence upon others (1885c).

Principled youth, youth who will "stand for the right though

the heavens fall" (1903, p. 57), can exert a stronger influence among their peers than can ministers and other older adults (1930).

Parents and Older Siblings

"In the formation of character, no other influences count so much as the influence of the home" (1903, p. 283). Because parents deal with the earliest foundations of their children's character, no higher and weightier responsibility exists than that of parenthood (1916).

Like begets like. "What the parents are, that to a great extent the children will be" (1905, p. 371). The parents' dispositions, tendencies, and physical conditions are reproduced in their children to a greater or less degree. The parents' character, their daily life, and their methods of training interpret their teachings to their little ones (1905). ". . . the acts, the words, the very look of the parent continue to mold the child for good or for evil" (1903, pp. 280-81). Indeed, by "the parents' example and teaching the future of their children is largely decided" (1917, p. 245).

To demonstrate God's love in their character and home life from their children's earliest years is a duty of parents (1890). Their reproof in discipline should be supported by exemplary living before their children (1885d). They are to set a right example and be exceedingly careful of what they say and do (1885a). This parental challenge is strongly sounded in these words:

> They should closely investigate their lives, analyze their thoughts and motives, and see if they have been circumspect in their course of action. They should watch closely to see if their example in conversation and deportment has been such as they would wish their children to imitate. Purity and virtue

> should shine out in their words and acts before their children. (1885b, p. 461)

A call is also directed to parents to surround their children with such influences as shall lead them in the right path and help them choose a life of service. Such influences, White enumerates, are love, cheerfulness, and courtesy. In this atmosphere parental instruction and restrictions will have far greater weight in young minds (1905).

How to get the children interested in the Scriptures is a significant point in White's concept of familial modeling. Parents can and should interest their sons and daughters in the sacred pages (1980). The most effective way to do this is here suggested:

> In order to interest our children in the Bible, we ourselves must be interested in it. Our instruction to them will have only the weight of influence given it by our own example and spirit. . . . And that which gave power to Abraham's teaching was the influence of his own life. (1903, p. 187)

In her extensive discussion of home influences White delineates the modeling responsibilities of the father, the mother, and the older siblings. The father, by his example and influence, molds his children's character. Therefore, he should

> enforce in his family the sterner virtues--energy, integrity, honesty, patience, courage, diligence, and practical usefulness. And what he requires of his children he himself should practice, illustrating these virtues in his own manly bearing. (1905, p. 391)

The mother's influence determines the fabric of her children's lives. "To a very great extent the mother holds in her own hands the destiny of her children" (1890, p. 249). Hence, she should be a true reflection of the Divine Pattern. Her noble and awesome role is presented in this classic description:

> No other work can equal hers in importance. She has not, like the artist, to paint a form of beauty upon canvas, nor, like the sculptor, to chisel it from marble. She has not, like the author, to embody a noble thought in words of power, nor, like the musician, to express a beautiful sentiment in melody. It is hers, with the help of God, to develop in a human soul the likeness of the divine. (1905, p. 378)

Every family, White suggests, may be a perpetual school. A strong influence can be exerted by the older over the younger members of the family. Younger siblings, observing the example of the older ones, will be led more by the principle of imitation than by rules often repeated (1885c).

The influence of an ill-regulated family is widespread and disastrous (1890). But a well-ordered Christian household exerts a tremendous influence for good (1905). White notes the extent and potency of its influence:

> Far more powerful than any sermon that can be preached is the influence of a true home upon human hearts and lives. As the youth go out from such a home, the lessons they have learned are imparted. Nobler principles of life are introduced into other households, and an uplifting influence works in the community. (1905, p. 352)

A concluding word for the makers of the home on their responsibility as models might appropriately be this:

> As parents you are in a great measure accountable for the souls of your children. You have brought them into existence; you should, by precept and example, lead them to the Lord and the courts of heaven. (1885d, p. 113)

Significant Adults

Besides parents, the significant adults especially focused upon in White's treatment of the subject of example are the ministers and other Christian workers, teachers, and leaders. Included in the last group are physicians, administrators, managers, and others

leading their fellow men in some capacity.

Referring to these individuals, White says on their influence depends the destiny of many (1885c). Moreover, they are examples and epistles to the world which all men see and read. God requires these individuals who present His truth to others to avoid any appearance of evil (1885b).

The minister's work is beyond the desk. He should exemplify Christ and live his sermons out in his actions and words. "The example of those who minister in holy things should be such as to impress the people with reverence for God and with fear to offend Him" (1890, p. 621).

The minister's daily conduct has a great influence on others. He is to represent the principles of truth in his own life, and by his example help men and women to reach a high standard (1885b). His words, his ways, his gestures and manners, his faith, his piety (1885b), his dress and taste (1915) all exert an influence upon his flock. And "the people will seldom rise higher than their minister" (1885b, p. 646). It is an indisputable fact that

> When the living preacher exemplifies in his own life the self-denial and sacrifices of Christ, when his conversation and acts are in harmony with the divine Pattern, then his influence will be a powerful one upon those who listen to his voice. (1885d, p. 118)

The minister's home, and for that matter the home of any gospel worker, is a vital extension of his example. Serious are the consequences when his influence fails in this area:

> But great as are the evils of parental unfaithfulness under any circumstances, they are tenfold greater when they exist in the families of those appointed as teachers of the people. When these fail to control their own households, they are, by their

> wrong example, misleading many. Their guilt is as much greater than that of others as their position is more responsible. (1890, p. 620)

White reiterates that no limit can be set to the influence of leaders and teachers. The course of each one leaves impressions upon the minds of youth, and these are carried away to be reproduced in others (1889).

In every line--health, diet, dress, labor, and recreation--the teacher is to be an example. He should do this not only because of its effect on his own usefulness but also because of its influence upon his students. "All that he desires his pupils to become, he will himself strive to be" (1903, p. 201). The impact of this suggestion is further accented in these statements:

> The teacher can gain the respect of his pupils in no other way than by revealing in his own character the principles which he seeks to teach them. Only as he does this in his daily association with them can he have a permanent influence over them for good. (1903, p. 277)

The teachers' daily influence will not cease to extend and strengthen until the end of time. The results of his example he must face again on the judgment day (1903). However, he can look forward to that day with gladness if he has learned and practiced the secret of positive Christian modeling--"Reflect Him" (1903, p. 282).

Bible Characters

The Scriptures abound in biographies. White points out that only in the life records of the Bible can man find a faithful and true delineation of human character. It is here that the truths of "what we do is the result of what we are" and "no man lives to himself" are confirmed with concrete and undebatable evidence (1903).

In various comments White emphasizes the consequences of a negative example as clearly portrayed in the lives of Aaron, Lot, Ishmael, Jacob, Eli, Gideon, Samson, David, and Solomon.

Aaron, the man whom God used to steady the hand of his brother Moses, swayed a powerful influence on the wrong side. Instead of waiting patiently for God's word at the foot of Mt. Sinai, he yielded to the desire of the ancient Israelites to make a golden calf. He directed and the people obeyed. This was an enormous sin before Him who forbade the worship of any other god. Aaron's "course in giving his influence to sin in Israel cost the life of thousands . . ." (1890, p. 331).

Lot was a principled man to begin with. But he married one who was "selfish, irreligious . . . , and her influence was exerted to separate her husband from Abraham . . . (1890, p. 172). In the city where Lot and his family chose to live, lax morality, unbelief, and indifference to religious things were rife. The evil associations of that vile place counteracted his influence on his daughters, and they perished for their sinful conduct. His wife, however, could have been saved when the city was destroyed, but his example of "hesitancy and delay caused her to lightly regard the divine warning" (1890, p. 160).

A similar picture is displayed in the story of Ishmael. Although Abraham, his father, taught him to fear God, this religious influence was counteracted by that of his mother's relatives. This downward trend in Ishmael's life was further reinforced by the influence of his heathen wives, resulting in the establishment of idolatry in his family (1890). However, Abraham's example and teaching had

not been without effect upon him. Although his posterity bore the negative stamp of character, Ishmael, in his advanced years, "repented of his evil ways and returned to his father's God" (1890, p. 71).

The impact of another father's example is demonstrated in Jacob's experience. His deception and the sequence of events to which it led exerted an evil influence and bore fruit in the character of his sons (1890).

This narrative strain is repeated in the story of Eli and his sons. Eli was a priest and judge of the Israelites of old. As one with sacred duties and the highest judicial authority in the land, he wielded great influence over the tribes and was looked up to as an example. Although he had been chosen to rule the people, he did not manage his own household. A fond and indulgent father, he condoned the evil habits and passions of his sons. The baleful results of his example were widespread and far-reaching:

> Because of Eli's position, his influence was more extended than if he had been an ordinary man. His family life was imitated throughout Israel. The baleful results of his negligent, ease-loving ways were seen in thousands of homes that were molded by his example. (1890, p. 619)

The posthumous effects of a wrong influence are depicted in Gideon's experience. After his dramatic victory over the Midianites, the people urged him to become their king. He refused that, but then set himself up as priest and instituted his own system of worship. This evil example led many to idolatry. Gideon's account is punctuated by the apostasy of his own family after his death (1890).

Physically, Samson was the strongest man upon the earth, and

God intended for him to be the judge and deliverer of Israel. However, he succumbed to temptation and proved unfaithful to his trust. His mission ended in defeat, bondage, and death. The most decisive factor which contributed to his downfall is worth pondering:

> At the outset of his life he was surrounded with favorable conditions for physical strength, intellectual vigor, and moral purity. But under the influence of wicked associates he let go that hold upon God which is man's only safeguard, and he was swept by the tide of evil. (1890, p. 606)

David, the "man after God's own heart" after his repentance, was ever conscious of his sin and its consequences. His influence was inevitably weakened. In his own household his authority was greatly enfeebled. No longer could he claim the same respect and obedience from his sons that he had commanded before his transgression. "His evil example exerted its influence upon his sons and God would not interpose to prevent the results" (1890, p. 777).

Solomon was the wisest man and one of the greatest kings the world has ever known. An exhibit of power and influence, his life was a record of nobility supplanted by profligacy and dissipation. It was an open book of faith replaced by unbelief, of justice ending in despotism and tyranny. Among the many lessons taught by his life, none is more strongly and clearly brought out than the power of example.

> Solomon's repentance was sincere, but the harm that his example of evil-doing had wrought could not be undone. . . . Though the king confessed his sin and wrote out for the benefit of after generations a record of his folly and repentance, he could never hope entirely to destroy the baleful influence of his wrong deeds. Emboldened by his apostasy, many continued to do evil, and evil only. (1917, pp. 84-85)

The list of wrong exemplars in Bible history could go on, but happily there is the other bright side of influence. While it is

true that the bad never dies with its possessor, neither does the good.

Moses, the patient leader of ancient Israel, was not flawless in character, but his example of unselfishness and meekness was indelible. The record says:

> Moses was dead, but his influence did not die with him. It was to live on, reproducing itself in the hearts of his people. The memory of that holy, unselfish life would long be cherished, with silent, persuasive power molding the lives even of those who had neglected his living words. (1890, p. 507)

It must be noted, however, that Moses' influence was not the product of happenstance. Someone else's example bore its fruit in him, for his whole life, "the great mission which he fulfilled as the leader of Israel, testifies to the importance of the work of the Christian mother" (1890, p. 249).

Another character whose name appears on the maternal hall of fame is Hannah, the woman of prayer and self-sacrifice. Her strong spiritual influence was reflected in her children, especially in her firstborn. The founder of Israel's ancient sacred schools and its incorruptible judge, Samuel wielded a stronger influence on the people than did the king of the land, because "his record was one of faithfulness, obedience, and devotion" (1890, p. 712). On the other hand, King Saul's irreligious example was reproduced in the godlessness of many.

Abraham, the father of the faithful, set a worthy example not only for his household but also for future generations. His life of prayer, his "habitual faith in God and submission to His will were reflected in the character of Isaac" (1890, p. 168).

A consecrated Christian life always sheds light wherever its

possessor goes. Such was Abigail. Married to a rich but churlish and niggardly man, she was a wise reprover and counselor to David. Under the power of her influence, David's rash impulse to punish her husband for his stinginess was quelled. How did she do it?

> The piety of Abigail, like the fragrance of a flower, breathed out all unconsciously in face and word and action. The Spirit of the Son of God was abiding in her soul. Her speech, seasoned with grace, and full of kindness and peace, shed a heavenly influence. (1890, p. 717)

By his example and life style, Paul promoted Christian growth and nurture in his converts. All who associated with him felt the heavenly influence. Where did such power come from? "Paul's life was an exemplification of the truths he taught; and herein lay his power. . . . He clung to the cross of Christ as his only guarantee of success" (1911, p. 507).

White also cites other examples on the credit side of influence, but these should be adequate for illustration. However, two stalwarts must conclude the roll of positive influencers--Joseph and Daniel. These were two young men who held weighty trusts in the ancient kingdoms of Egypt and Babylon. So exemplary was their behavior that even their enemies honored them. Their impact is described thus:

> In them a heathen people, and all the nations with which they were connected, beheld an illustration of the goodness and beneficience of God, an illustration of the love of Christ. (1903, p. 57)

Symbolic Models

In Ellen White's time radio and television were unknown. However, she emphasized the influence of symbolic models found in reading materials and the theater.

She states that the mind is affected to a significant degree by that upon which it dwells (1902). The world teems with publications which educate young and old in lawlessness, crime, licentiousness, falsehood, and fantasy-living (1890). Statements and pen pictures of the degrading stimulate the imagination and generate dangerous thinking. As the mind, especially that of youth, dwells upon these demoralizing elements and scenes, the passions are aroused and sin results. The degenerating process she explains further:

> To the active minds of children and youth the scenes pictured in imaginary revelations of the future are realities. As revolutions are predicted and all manner of proceedings described that break down the barriers of law and self-restraint, many catch the spirit of these representations. They are led to the commission of crimes, even worse, if possible, than these sensational writers depict. Through such influences as these, society is becoming demoralized. The seeds of lawlessness are soon broadcast. None need marvel that a harvest of crime is the result. (1905, p. 445)

In her counsel to an individual who had indulged in novel and fictitious story reading, White pointed out the injurious effects of such "ill-chosen literature," as she branded it. It wearies and weakens the intellect, impairs the memory, and tends to unbalance the reasoning powers. It creates nervousness, excites the imagination, and taxes the physical strength. Then in a more emphatic and straightforward assertion, she summarizes the enslaving power of this type of literature on the reader:

> If the imagination is constantly overfed and stimulated by fictitious literature, it soon becomes a tyrant, controlling all the other faculties of the mind and causing the taste to become fitful and the tendencies perverse. (1885d, p. 497)

Speaking of pleasure resorts that poison the mind, White exposes the perilous influences of the theater. The lewd songs and gestures, the lascivious expressions and attitudes deprave the

mind and reinforce sinful propensities, she observes (1923a). The passions are stimulated to intense activity (1900) and the mind is educated in familiarity with sin (1890). A "hotbed of immorality," the theater, White avers, as well as other questionable places of amusement, educates the youth in crime and corruption (1885d).

On the wholesome side of symbolic modeling is reading matter which elevates and quickens the mental powers. In this regard, White considers the Bible immeasurably superior in value to any human production. Since man, she reasons, was created to fellowship with God and find in Him his real life, he can find in no other writing his genuine development and joy.

> He who with sincere and teachable spirit studies God's word, seeking to comprehend its truths, will be brought in touch with its Author; and, except by his own choice, there is no limit to the possibilities of his development. (1903, p. 125)

Concerning positive models, White points to this Book as a unique source in which "are portrayed the noble deeds of noble men, examples of private virtue and public honor, lessons of piety and purity" (1912, p. 3).

Essential Variables of Example

Besides those already mentioned in the earlier sections of this chapter, four other important variables of example have been derived from White's writings: (1) reinforcement, (2) consistency, (3) perception, and (4) intelligence.

Reinforcement

White's concept of reinforcement does not involve the material as much as it does the spiritual and affective aspects of man.

To many people, she observes, life is difficult and painful. To the struggling and lonely "kind words, looks of sympathy, expressions of appreciation would be . . . as the cup of cold water to a thirsty soul" (1896, p. 39).

The kind of reinforcement that is healthy for both the model and the observer, she suggests, is the habit of thankfulness, praise, and speaking well of others (1905). This implies dwelling upon the good qualities of those with whom one associates and seeing as little as possible their weaknesses and mistakes. It means praising something in their lives and character even though they do not meet expectations. This proposes that they should be assured of their fellow men's interest, sympathy, and prayers (1905).

Reinforcement techniques in the home are just as imperative. The mother may be an inspiring force and bring sunshine to her children by a word of love and encouragement, a smile, or an approving glance (1880). Love and respect must be manifested by the parents for each other if they expect these qualities in their children. The father should "encourage and sustain the mother in her work of care by his cheerful looks and kind words . . . by his refinement of manners" (1885b, p. 84).

Surrounded with happy and helpful influences, many tempted youth "would gladly turn their steps into the upward path" (1905, p. 355).

Consistency

To be a decided influence upon others, teaching must be supported by practice (1930). Although words can be heard, actions do

speak louder than words. Thus,

> your words will have only the weight of influence for good that your own example and spirit have gained for you. You must be good, before you can do good. You cannot exert an influence that will transform others until your own heart has been humbled and made tender by the grace of Christ. (1896, pp. 174-75)

In many so-called Christian homes parents manifest an irritable spirit, blaming and speaking angrily to their children. At the same time these parents attend church, address God, and give eloquent testimonies in favor of their faith. This behavioral dissonance leads children to despise their parents and the truth they profess and to lose confidence in Christianity (1885b). White further points out:

> It is because so many parents and teachers profess to believe the word of God while their lives deny its power, that the teaching of Scripture has no greater effect upon the youth. At times the youth are brought to feel the power of the word. . . . But in contrast they see the life of those who profess to revere God's precepts. (1903, p. 259)

Commenting on Achan's covetousness, White warns that the influence to be feared most by the Christian church is

> not that of open opposers, infidels, and blasphemers, but of inconsistent professors of Christ. These are the ones that keep back the blessing of . . . God . . . and bring weakness upon His people. (1890, p. 526)

Divine truth is power. However, it carries little weight with the domestic circle and the world when the behavior of those who profess it does not match their profession (1900).

Perception

White writes a greal deal about the responsibility of the model in this conceptual framework of example. However, the observer, in her opinion, is not without obligation. Often it is the

observer's own attitude, the atmosphere that surrounds him, which determines what he will observe and perceive in others (1905). The effect of negative-seeking on the part of the observer is revealed in these words: "The very act of looking for evil in others develops evil in those who look. By dwelling upon the faults of others, we are changed into the same image" (1915, p. 479).

In the same manner, the observer with a wholesome frame of mind will see that which is positive and uplifting in others. This kind of mind is acquired in only one way--

> by beholding Jesus, talking of His love and perfection of character, we become changed into His image. By contemplating the lofty ideal He has placed before us, we shall be uplifted into a pure and holy atmosphere, even the presence of God. When we abide here, there goes forth from us a light that irradiates all who are connected with us. (1905, p. 492)

Finally, the specific responsibility of the observer, and that includes every human being, is summarized in this declaration:

> You are responsible--responsible for the use of your eyes, your hands, your mind. These are entrusted to you by God to be used for Him, not for the service of Satan. (1902, p. 168)

Intelligence

Since there is no universally accepted definition of intelligence today (Biehler, 1974), it would be more appropriate perhaps to refer to this variable as mental development. White urges the calling out of the mind and taxing its energies. The mind, she says, "must be cultivated, employed, not lazy and dwarfed by inaction" (1923b, p. 242). In this context she evaluates the relationship between mental culture and character:

> The mental and moral powers which God has given us do not constitute character. They are talents, which we are to improve,

> and which, if properly improved, will form a right character. (1885d, p. 606)

Deploring the mental carelessness and indolence, especially of Christian workers, White expands the inseparable link between intelligence and character:

> God requires the training of the mental faculties. He designs that His servants shall possess more intelligence and clearer discernment than the worldling, and He is displeased with those who are too careless or too indolent to become efficient, well-informed workers. The Lord bids us love Him with all the heart, and with all the soul, and with all the strength, and with all the mind. This lays upon us the obligation of developing the intellect to its fullest capacity, that with all the mind we may know and love our Creator. (1900, pp. 333-34)

White also teaches that the brain nerves are the only medium through which God can communicate with man (1885b). Therefore, she concludes, it is incumbent upon every man to keep his mental faculties in the best of health and to cultivate them to their highest potential. When the mind is stretched to the limit in the acquisition of knowledge motivated by a controlling love of God, the reception of heavenly communication is possible. This divine-human intercourse refines, broadens, and elevates the intellect. In turn, the mind becomes fit for a higher level of divine communion. More clearly it discerns evil and perceives God's character, the model of Christian behavior. This knowledge, purified through the grace of God, leads to loving Him and desiring to represent His character to others (1877).

Intelligence, White holds, has a bearing not only upon one's power for good in this world but, most importantly, on eternal consequences. The glorious challenge for the mind to reach out into the

unbounded immensity of the Infinite is presented in this rather startling statement:

> The capability to appreciate the glories that "eye hath not seen, nor ear heard," will be proportionate to the attainments reached in the cultivation of the faculties in this life. (1877, p. 193)

The influence of those with more developed intellects is of particular concern to White. She believes that "The more intelligent a man becomes, the more should religious influence be radiating from him" (1923b, p. 245).

The Perfect Model

Various psychologists of modern times infer that there are certain people in this world who are worthy of absolute imitation because their total life orientation constitutes the highest level of humanness. Out of the run-of-the-mill stream of humanity, they stand out as superstars in the art of living. Foremost of these psychologists with this premise is Abraham Maslow (1970) who is well-remembered for his self-actualization studies. Self-actualization, according to Maslow, implies the full use of talents, capacities, and potentialities. It is the stage of being fully developed, fully human, fully functioning, fulfilling one's genetic potential, and growing to the fullest.

White's view on this phase of human development is based on the Bible teaching that man's nature, weakened by transgression, is sinful and depraved (Rom 3:23). This being the case, human models and their representations, effective and salutary though some may be, cannot be perfectly mature, sinless examples. Man patterning his behavior after that of his fellow human beings is bound to be

disappointed in some way some time (Ps 118:8-9).

White (1892) repeatedly states that without divine help man really has no assurance that his influence is always right. His very being that sheds that influence is subject to the pride and selfishness of his natural human heart. Who then is the perfect model? She provides the answer:

> Look to Jesus . . . copy His manners and spirit. . . . We have not six patterns to follow, nor five; we have only one, and that is Christ Jesus. (1909, p. 181)
>
> The character and disposition of Christ's followers will be like their Master's. He is the pattern, the holy and perfect example given for Christians to imitate. (1885c, p. 58)
>
> Consider the life of Christ. Standing at the head of humanity, serving His Father, He is an example of what every son should and may be. The obedience that Christ rendered God requires from human beings today. (1900, p. 282)

Christ's life was the supreme demonstration of precept and practice. What He expressed in words He revealed also in His behavior. "He was the embodiment of the truths He taught" (1898, p. 451).

Standing at the head of mankind, Christ served all and ministered to all. Living under a law of service, He lived God's law. By His example, He showed how man was to obey it (1898).

Christ's perfect example of filial love is a lesson for all ages. He was the pattern for children and fathers. Power attended His word. With all His authority, however, He was never unkind or discourteous, even to the rude and violent (1898).

A perfect model for youth, Christ excelled in all things that are unselfish, high, and noble (1905). His life of "sacrifice, self-denial, toil, and disinterested benevolence" (1885b, p. 268)

stands as the flawless standard for the true Christian minister's character and work.

The ideal in matters of association was typified in the first thirty years of Christ's life. Spent in retirement from evil influences, it is set forth for imitation--"to shun the society of those who do not live aright" (1885d, p. 109).

The faultless Pattern was not indifferent to the problems of humanity, but He kept Himself uninvolved in politics and governments. His mission was to recreate God's image in man, and the procedure did not depend on merely human and external strategies (1898). To regenerate the heart, He had to reach man individually.

The life of those who emulate Christ will reveal His meekness, even in suffering and death (1898). They will be full of earnest purpose and will have a deep sense of responsibility, peace, and joy. ". . . when His love reigns in the heart, we shall follow His example" (1892, p. 121).

Thus, man cannot take refuge behind the defects or foibles of his fellow men to excuse his own guilt. Christ's character and faultless life is the ideal to be copied (1885d, p. 357). "What He taught, He lived. . . . And more than this; what He taught, He was" (1903, p. 78).

However, man in his enfeebled condition must face up to the fact that the human and the divine cannot stand on the same level. "We cannot equal the example, but we should copy it" (1885b, p. 628). Christ did not only teach virtue and truth--He was the truth. He is more than a model--He is life itself (1923b).

Towards a Sanctified Personal Example

In his pioneer investigation on self-actualizers, Maslow attempted to present a concrete and concise picture of the highest human functioning. His descriptions of self-actualizers were derived from interview impressions, biographies, autobiographies, and casual observations of behaviors (DiCaprio, 1974). From these procedures Maslow formulated certain behaviors or steps leading to self-actualization. A typical present-day sociopsychological view of maturity, this state of self-fulfillment, he proposed, was within man's reach by his own bootstraps. The steps are listed in his book, The Farther Reaches of Human Nature (1972, pp. 41-53).

In her comments on the Judeo-Christian concept of maturity, White insists that Christ is the only perfect model worthy of imitation. The Christian must be like Him, if he is to become an effective model to his fellow men. However, understanding the hazards of his sinful condition, the Christian admits that by himself he cannot copy the sinless Exemplar. True, he admires and wants to be like Him, but he cannot emulate Him. But why the mandate to imitate Him? Can one really become like Him? Man would need a revelation of truth outside himself and reach out in faith to understand how to get to the level of Christian maturity, Christlikeness. White provides an excellent description of the process.

First, she prescribes, man must recognize that the genesis of a sanctified influence is divine grace. "It is only through the grace of God that we can make a right use of this endowment. There is nothing in ourselves by which we can influence others for good" (1900, p. 341). Through the Holy Spirit moving in his heart, a

person manifests the spirit and the character of Christ in his life (1896). Acceptance of this power as man's only guide and enabling is therefore the first principle in the development of a sanctified influence. "He who attempts to build up a noble, virtuous character independent of the grace of God is building . . . upon the shifting sand" (1890, p. 486).

It is the abiding influence of the Holy Spirit, White (1892) holds, that renews the heart. The mind is attracted upward and habituated to feed on uplifting themes. The avenues of the soul are guarded. Reading, seeing, or hearing that which suggests impure thoughts is shunned (1890).

Second, man must have a knowledge of God, for "it is this alone that can make one like God in character" (1911, pp. 530-31). As Christ's perfection is dwelt upon, man will want to be wholly like Him (1896).

When man beholds Christ, the character is molded after His, and everything man looks upon reflects Christ's image. When one turns his eyes away from the sun after gazing at it in its dazzling glory, its brightness appears in everything he looks at. Thus it is with constant reflection on Christ's character (1923b). "His image is imprinted upon the eye of the soul, and affects every portion of our daily life, softening and subduing our whole nature" (1930, p. 161). And as His character is daily manifested in the life, the Christian receives an endowment of creative energy--"a silent, gentle, persuasive, yet mighty influence to recreate other souls in the beauty of the Lord our God" (1896, p. 176).

How does man find an authentic revelation of Christ and His character?

> The whole Bible is a revelation of the glory of God in Christ. Received, believed, obeyed, it is the great instrumentality in the transformation of character. (1904, p. 319)

Third, the life must be in harmony with the principles delineated in this unerring and enduring frame of reference. The promise of unlimited and lasting influence for good is offered to those who make God's precepts govern their words and actions (1930) and who work the lessons of His Word in their daily lives (1911).

The tremendous influence diffused on all around them by those who accept Christ's wisdom and His power as their strength, and who are acquainted with Him are untold. Their thoughts and manners will be pure and refined (1896). Grace, propriety, and comeliness of deportment are imparted to them. The countenance is illuminated, the voice is subdued, and the whole being is refined and elevated (1905). To all with whom they come in contact they reflect the bright and cheerful beams of Christ's character (1930). "We are to come in touch with God, then we shall be imbued with His Holy Spriit that enables us to come in touch with our fellow men" (1898, p. 479). And while the mind is stayed upon God, "the evil that surrounds us will not bring one stain upon our garments" (1905, p. 511).

Thus, these principles--accepting divine grace as the only strength, studying the character of Christ as revealed in the Scriptures, and practicing His virtues--become a living power to shape the character according to the divine likeness (1903; 1913).

But the sad refrain on the nature of man is repeated.

Weakened by sin, humanity fails to attain the ideal again and again. Here White directs the Christian to two of the most helpful and encouraging assurances:

> When unconsciously we are in danger of exerting a wrong influence, the angels will be by our side, prompting us to a better course, choosing our words for us, and influencing our actions. Then our influence may be a silent, unconscious, but mighty power in drawing others to Christ and the heavenly world. (1900, pp. 341-42)

> When it is in the heart to obey God, when efforts are put forth to this end, Jesus accepts this disposition as man's best service, and He makes up for the deficiency with His own divine merit. (1958, p. 382)

Summary

White teaches that every man is a model to his fellow men. Every aspect of his personality, observable or unconscious, inevitably affects them to a lesser or greater degree. The power of example or influence is a responsibility from which no individual can escape and for which each man is personally accountable. No neutral ground exists in this matter, she holds, as the consequences on others are either positive or negative and have far-reaching, eternal implications.

This power God gave to man with which to bless other human beings. Through it man is to represent the Divine Character to the world. However, this goal can be achieved only through a power outside of man. The natural human heart is self-serving and sin-weakened. For this reason, man cannot find this enabling power in human models. Only Christ can supply it. Only in Him can man find the perfect model and the power for his daily behavior.

Man's acceptance of this divine strength and his study of

Christ's character as revealed in God's Book will eventually lead him to want to be like the Perfect Model. Thus, the human life becomes a reflection of the Divine Character and a medium through which heavenly influence can be diffused to the world. As the apostle Paul puts it, ". . . it is no longer I who live, but Christ who lives in me . . ." (Gal 3:20).

CHAPTER VIII

THE PROPONENTS' MODELING VIEWS COMPARED

The modeling views of Bandura and White have each been presented in detail in chapters V and VII. This chapter concentrates on the comparison of these views by considering each of the ten concepts found in Bandura's writings and verified by his experimental studies (see chapter VI). Also included is a comparison of Bandura's and White's philosophical positions on the concept of man, their scope and treatment of the subject of modeling, and their application of modeling to education. As is possible in any attempt like this, varying opinions may have been advanced on the nuances and subtleties of the concepts. However, the intent here is to point up the similarities and differences between the philosophies. A comparative summary is presented in table form at the end of the chapter.

On Modeling Concepts

Human Beings Are a Source of Meaningful Stimuli That Alter, Direct, or Maintain Behavior

Bandura contends that people are not born equipped with social skills. They must learn them. Most of human behavior, he believes, is learned observationally through the power of example (Bandura, 1977). In his paradigm, human beings, whom he labels real-life models," are the basic sources of modeling influences and directors of behavior change. Parents, peers, and members of other

reference groups are especially designated as shapers of behavioral patterns and characteristics, as well as of values and attitudes. By observing the conduct of others, one forms an idea of how the behavior is performed and of what opinions and things are valued or not preferred. On later occasions, Bandura explains, the example can serve as a guide for action.

To human beings Bandura attributes the power to promote, weaken, or elicit desired behavior repertoires in other individuals. He admits, however, that there are limitations in the observer which hinder the occurrence of overt acts based on modeled behavior. From observing the behavior of others, Bandura says, individuals can learn general lessons for actions that go beyond the specific examples (Bandura, 1974).

According to Bandura (1962) wrong human modeling is the root of deviant and abnormal behavior. Because of man's directorial and self-regulatory capacities, a society devoid of antisocial and dysfunctional people is not an impossible dream--that is, he stipulates, if appropriate models can be provided.

White is in general agreement with Bandura's position that human beings do affect the behavior of other human beings. However, while Bandura's sources of real-life models are also central in White's philosophy, she goes one step further by delineating the life records of Bible characters. By doing so, she appears to be stressing the fact that whether then or now--in fact, since the beginning of human history--man has always been a model before his fellow men. In White's concept no man can live to himself.

At this point, however, the consonance between the two

authors in regard to this concept ends. The clearest divergence lies in White's emphasis on far-reaching consequences and accountability. White is very explicit in her view that man is not only a meaningful source of simuli for behavior change but, more importantly, a crucial determinant of his fellow men's eternal destiny. Whether he likes it or not, whether he is conscious of it or not, man, by his example, leads others upward or downward. The fruitage of his example, White (1890) asserts, will confront him on the reckoning day.

White (1898) accepts the self-regulatory and directorial potential of man in that he can choose which power shall control his life. He may decide to have his Maker rule over him or to be left to the infirmity of his own nature. Here perhaps lies the greatest difference between the two proponents' views of behavior modification. While to Bandura, as well as to other contemporary psychologists, behavior modification implies primarily the change in the observable functioning of the human being, to White it deals not only with the external but, more importantly, with man's heart. Furthermore, change is more than modification. In her view, it is a transformation, a regeneration, a renewal. She amplifies:

> When Jesus speaks of the new heart, He means the mind, the life, the whole being. To have a change of heart is to withdraw the affections from the world, and focus them upon Christ. To have a new heart is to have a new mind, new purposes, new motives. (White, 1930, p. 72)

This renewing process, White holds, cannot be effected by human power. Unassisted by a force beyond himself, man may change the outward behavior but the natural propensities to evil are still within. But if man chooses to place himself in his Creator's control, he receives divine grace for internal transformation. In

possession of such enabling, he becomes an effective and genuine Christian-character exhibit to his fellow men.

It is safe to assume that White's viewpoints in this respect stem from her understanding of the nature of man. Man, the masterpiece of creation, is related to God. With this relationship unbroken, he naturally turns to his Creator and reflects His ways. Moreover, man is a total whole, a unit whose mental, physical, social, and moral aspects are indivisible. What affects one affects the whole. This position is perhaps the reason why White is silent on the psychosocial causes of unacceptable behavior. To her, the root of all unchristian or maladaptive human functioning is sin, man's severed relationship with his Maker.

Modeling Is a Potent Means of Transmitting or Modifying Behavioral Repertoires

Modeling, as Bandura explains, is the process by which new behavior modes are learned and existing ones modified through observing the performance of human examples or their representations. Largely a procedure of conscious observable demonstration of the desired behavior to the observer, modeling influences can serve as "instructors, inhibitors, disinhibitors, facilitators, stimulus enhancers, and emotion arousers" (Bandura, 1977, p. 50).

Bandura believes that more behaviors are learned by observation than by direct experience. Through observing and imitating the behavior of others, learners can bypass much wasteful random behavior and come close to reproducing the behavior desired.

How novel styles of thought and conduct can be achieved constitutes a major theme in Bandura's conceptualization. Here again

he dwells on the capacity of the human being to experience vicariously, abstract cognitively, and code symbolically modeled events. Man can synthesize features of different models and diverse responses impinging upon him. Bandura suggests that when a person observes a model, he acquires cognitive representations of what he has seen in the form of images and verbal thoughts. Integrated within the central nervous system and retained somewhat independently of each other, these imaginal and verbal representations are evoked when associated stimuli are introduced on a later occasion.

White agrees with Bandura on the point of modeling potency. In her teaching, modeling is a power with imperishable results. Like Bandura, she believes that although the performance of the modeled behavior may not be overt or immediate, this does not mean the observer has not been affected in any way. Especially does she point this out in the relationship between symbolic models and crime, between familial modeling and children's character.

The two proponents seem to differ, however, in the implications of potency. It is reasonable perhaps to assume that to Bandura the word connotes efficiency, practicality, facility, and applicability in teaching and learning situations. To White, potency implies inevitability, duration and extensiveness of effects, and the decisiveness of its role in the destiny of both model and observer.

White does not accept the view that modeling involves largely the observable. In fact, she stresses that the unconscious influence is as powerful as the demonstrated aspects, if not more powerful. Every facet of the personality and every unstudied influence--the whole atmosphere surrounding the individual--are included, she

teaches, in that encompassing term, example (White, 1885b).

A wide divergence between the two authors is also noted in regard to modeling processes. Bandura's explanation centers mainly on the observer and tends to be mechanical and construct-oriented, which is of course understandable. On the other hand, White's presentation, in the form of counsel, is inclined to emphasize the spiritual implications very heavily. It is also concerned with both the model and the observer. Hence, in White's framework the processes involved in both observing and being a model are conspicuously bereft of technical details. Rather, they are expressed as spiritual injunctions with eternity in view. Being an observer implies responsibility for one's vision and perception with salvation as the controlling factor. Being a model suggests watchfulness and care lest one's influence leads others away from the heavenly target.

The Acquisition of Modeled Behavior Involves Different Complex Variables such as Age, Sex, Cognitive Ability, Observer Characteristics, Model Characteristics, and the Like

The involvement of a number of already identified variables in this learning phenomenon brings to the fore one incontrovertible fact about man: that he is a complex organism. Bandura concedes that the identification of contingencies bearing on behavior contagion has just begun.

From his conceptualizations one can deduce his preference for the psychosocial factors in determining the acquisition of modeled behavior (Bandura, 1969). Of course he does not slight the cognitive differences either. With these variables playing a prominent

role in the modeling event, the same behavior, Bandura suggests, may be enhanced in one observer, diminished in another, or have a very negligible effect in still another.

By contrast, White presents no experimental data to support her concurrence with Bandura on this concept. That she recognizes the existence of these variables, however, can be easily inferred from her counsels on this point. Although she does not express the variables per se, a few illustrations should serve to demonstrate that she perceives them as such. Her distinction between parental and peer examples, and between the mother's subduing influence and the father's sterner manly virtues shows her cognizance of the age and sex differentials. Her concern about the Christian's use of perception, the circumspect attention to every aspect of life, and the exercise of the cognitive capacities indicate her awareness of the internal and external contingencies involved in the power of example. The note she takes of "the poorest and humblest" and their unconscious influence, and the stress she gives on the responsibility of leaders and other resource-controlling individuals attest to her consciousness of the status variable.

In White's works on this subject no hierarchy of variables is apparent. Instead, she constantly underscores the expectations and accountability proportionate to each man's capacities and opportunities (White, 1885b).

Aside from White's insistence on God's involvement and man's accountability for his example, there is little that can be contrasted in what she says with what Bandura has expressed concerning concept three.

The Behavior of Children Appears to Result from an Interaction of Parents' Modeling and Other Sources of Modeling Cues in the Environment

That a high proportion of information is mediated to man by his fellow men highlights his uniqueness as a human being. This information, interestingly, can be mediated only by other people, directly or indirectly, as through the pages of a book or the channels of a television set. According to the social learning view on which Bandura (1977) has based his theory, children are dependent on others for information because they do not have ready access to it. They are peculiarly receptive and vulnerable to social sources appearing and reappearing in their immediate environment, and the number of these potentially available informational origins is enormous.

Bandura points out that parents establish the conditions for learning and value acquisition in the early formative years of the child's socialization. They present the dispositions and behavior patterns which are adopted by the child. Since the family is embedded in a network of other social systems, the child's susceptibility to control by others is increased as he grows. This sensitivity is further heightened as he learns to assign a positive or negative value to events and objects in his milieu. The child's receptivity, Bandura (1976) suggests, opens him to the shaping influences not only of familial models but also of subcultural groups and the mass media--the representatives and transmitters of cultural values.

White's position in this regard is in essential agreement with Bandura. The only variation is in emphasis and implications.

White repeatedly dwells on the supreme responsibility of parents as models to their children. Although she assigns a more awesome role to the mother, especially during the child's earliest years, in no uncertain terms does she state that parents determine the moral structure and eternal interests of their offspring. Constantly she pleads for parents to lead them to the heavenly courts by parental precept and example (White, 1885d).

Symbolic and Representational Models Are Nearly Equal to Real-life Models in Effecting Behavioral Patterns

This concept, which has emerged largely from Bandura's film-mediated experiments, draws attention to the psychologist-researcher's overriding concern: the injurious effects of television violence on viewers, particularly children (Bandura, 1976). For his involvement he has earned public consciousness--and rightly so.

A wide range of models exhibiting the whole gamut of violent conduct, he observes, is readily available to children and adults through televised modeling in the receptive, nondefensive, and relaxed atmosphere of their homes. In Bandura's opinion symbolic modeling through this medium plays an especially significant role in the shaping and rapid spread of individual and collective aggression. Indeed, as he asserts, aggressive responses are generalized to new settings after observers' exposure to aggressive models.

From the social learning perspective, Bandura explains how aggressive patterns are developed, what provokes people to behave aggressively, and what sustains such actions after they have been elicited. To the point of oversimplification, he details the

disinhibitory effect, the facilitative condition, emotional arousal, and social influence involved in the aggression-instigating process. Significantly, he holds that aggression, which he describes as "the persistence of elevated anger," "stems from thought-produced arousal rather than from an undischarged reservoir of aggressive energy" (Bandura, 1976, p. 46).

That White lived and wrote before the age of radio, movies, and television has already been mentioned in the preceding chapter. Consequently, her symbolic models consisted primarily of reading matter and the theater. In her works on this subject one inescapably comes across the abundance of statements regarding the thought-genesis of crime and the debilitating and demoralizing effects of many presentations through these media. "The enormities, the cruelities, the licentious practices portrayed . . . have acted as leaven in many minds, leading to the commmission of similar acts . . ." (White, 1902, p. 165). It is not difficult to extrapolate from these sources principles that equally apply to the screen of today. So clearly White's position virtually corroborates Bandura's evidence on this matter.

Bandura offers specific suggestions towards the improvement of symbolic modeling, such as a more selective television programming, but White does not. Instead, she points to the Bible, the Book which, in her view, best embodies the principles governing the Christian and his use of symbolic models. It is hard to imagine that she will consider a second best in symbolic modeling. In her philosophy no modification of anything that originates in man is abso-

lutely pure and holy. And if pure, living water is available, why drink from even partially polluted sources?

Nurturant and Warm Adults Elicit Greater Observational Learning than Those Who Are Less Accepting

Bandura's experimental study in 1961 provides strong evidence for the importance of nurturance as a precondition for imitation. It shows that interaction with a warm and responsive model does affect subsequent imitative behavior in that it facilitates and increases it. On the other hand, distance and coldness on the part of models tend to impede imitative performance.

For the broader proposition of observation the support which Bandura's research provides is suggestive. As the child grows older, he is confronted increasingly with adult demands and potentially threatening power. Partly to reduce the threat inherent in his own relative helpfulness and partly to produce the kinds of behavior that will gain him acceptance and protection, the child is motivated to identify with adults. Nevertheless, the experiment points up the acute sensitivity that children have to the reactions of supportive and warm adults in their environment. They readily pick up the behavior of adult models, especially when the interaction with the adults is gratifying and pleasant (Bandura, 1969).

White is in substantial agreement with Bandura concerning the necessity for and the efficacy of adult nurturance in dealing with children. Children, she says, have tender and sensitive natures which are easily affected by loving, kind, and pleasant reactions. By contrast, the aloofness and the severe, masterful spirit of adults

provoke resistance in them and nullify any positive influence adults might have (White, 1889).

Calling attention to the atmosphere of the home, White urges parents to surround their children with such virtues as love, cheerfulness, and courtesy. She goes a bit further than Bandura by stating the reasons why this should be done, besides helping children to internalize these traits. Here again the focus is on eternal realities. Such influences, she holds, add more weight to parental instruction, encourage children to choose a life of service, strengthen them in times of temptation, and lead them in the path of right (see pp. 128-29).

The Behavior of High-status and Reward-dispensing Models Tends to Be Imitated More than That of Models Possessing Relatively Low Vocational, Intellectual, and Social Competencies

Within his social learning orientation, Bandura (1969) suggests that one factor determining the attractiveness of adult models is their ability to reward and control resources. In spite of the ambiguities and pretensions which characterize the social relations between adults and children, differences in status and power are very real and important. For one thing, the adult's higher status means that he has considerable control of the reward system that applies to children. Given a choice of models, children are likely to prefer those who have a higher reward potential.

Learning is not guaranteed by mere exposure to a model, Bandura reiterates. Attention to the model and discrimination of the important aspects of his behavior are vital. Some models, Bandura believes, are more influential than others because their

characteristics and qualities, their social status and prestige command greater attention.

The observer, Bandura suggests, wants to behave effectively so that he can gain rewards and avoid punishment from the powerful model. So he imagines different possible responses and repeatedly thinks of the model's actions (Bandura, 1969).

In his 1963 study Bandura separated two characteristics that might cause a status to invite imitation--control of resources and consumption of resources. In all phases of the study the former was consistently shown to attract imitation. This perhaps is because power reliably implies the possibility of enjoying resources while the enjoyment does not so reliably imply control over them.

There is concordance between Bandura and White on this viewpoint, although the rationale between them differs. Although every man, White says, is an inevitable example to his fellow men, certain individuals do command higher attention than others. Hence, they are more observed than those in the common rank and file of humanity. There are those who are entrusted with the responsibilities of leadership in various lines of human endeavor. White (1885c) places considerable stress on those who lead out in the impartation of God's truth, in the training of youth, and in the business of His organized work on earth. Accountability-oriented counsels undergird the fact that because much is given to them, then much is also required. This she lucidly portrays in Bible life histories which she aptly employs to prove the point.

Observers Who Initially Share Common Characteristics with a Model Are More Inclined to Imitate New Responses Displayed by the Model

Bandura's model of man presents the human being as neither an internally impelled system nor a passive reactor to external stimulation. Rather, he sees man as a product of a bidirectional process, with his behavior influencing the environment and the environment influencing his behavior. When external consequences are compatible with those that are self-produced, Bandura proposes that the effect on the individual is tremendously self-enhancing. Thus, he propounds, people choose associates who share similar values and patterns of conduct (Bandura, 1974). Largely imparted by example, these behavioral standards strengthen the individual's system of self-reinforcement, Bandura suggests.

According to Bandura social learning is the basis of identity. People find it easier to identify with those whose patterns of behavior are similar to theirs. There are sets of models constituting what Sherif (1963) labels reference groups, groups to which an individual relates himself or aspires to relate himself as a part psychologically. They are sources of attitudes and values which are imitated and which serve as bases for further social learning.

Inasmuch as people reveal who they are by their behavioral patterns and attitudes, the reference groups which they use as models help them learn their identity. As Bandura points out, people tend to control their own behavior through standards of self-evaluation and self-reinforcement which, in turn, are influenced by the real or anticipated reactions of admired and respected members of reference groups.

On the inevitability and natural tendency of human interaction and socialization White has no question. Seeking companionship is natural for human beings, she avers, especially for the young. To a certain extent, however, she differs with Bandura in that she offers very little explanation as to the processes involved or reasons for man behaving so. She makes up for this apparent lack by tipping the scale in favor of effects and consequences. Her statements, especially on the association of youth, accent her view that such a link is a mystery. It binds hearts together and blends principles, tastes, and feelings. The resultant product is a mutual catching of the spirit and a copying of behavior, attitudes, and values.

In her usual spiritual vein White (1905) places a comparatively heavy stress on two points: the power of associates on the developing character and mind of youth and the necessity of vigilance in the choice of company. On these Bandura is seemingly silent.

Male Models Tend to Be More Readily Imitated than Female Models

Many societal interactions pattern by and hinge on sex. Most cultures, Western included, appear to be masculine-dominated, with women playing secondary supportive roles. In a masculine-dominated culture, it would be expected that men would generally be more socially attractive than women. The impact of the masculine interest in Western culture appears quite early in life. Lynn and Cross (1970) found that fathers were preferred to mothers as a playmate in seven different play situations by two-year-old boys and girls. Lindgren (1973) cites a Gallup poll survey in 1970 which

showed that four times as many American women as men confessed to wishing they were the opposite sex.

That Bandura's recognition of the sex differential in observational learning is influenced by the social learning view of sex interaction is perhaps a justified assumption. In the light of the distinctive social stratum which men occupy and which is linked to power and reward-dispensing potential, Bandura's research conclusion in this regard gains significance. And as he has stated over and over again, power attracts attention and attention, in turn, sets the stage for imitation (Bandura, 1969).

White countenances no demarcation line separating the sexes on the issue of example. The word man as she uses it is unquestionably generic. Every man, she consistently writes, male or female, is an observer and a model. Every individual is accountable for his personal example (White, 1885c).

At times it appears she has highlighted the male role in her illustrations. A rereading, however, discloses that those men are in the records, not because of their sex, but because of the lives they have lived. Of course, she also speaks of the greater influence of the mother on the child. In context the reasons for this are clear; contiguity, emotional significance, and high perceptual salience to the child, not sex.

It might also be argued that Christ, the master Model for all men whom she presents, is a man. Is that why He should be copied? Her answer is simple and undeviating: Christ obeyed His Father's will as men should. What He taught, He lived. What He preached, He was. That is why He is the example for all men.

Perhaps it will be in order to restate the evaluation by saying that Bandura and White do not see any basic distinction between male and female per se. But as one sex type occupies a place which commands societal attention, then a greater amount of imitative performance results. In a society where man plays the dominant role, the male model naturally gets more attention. Hence, he elicits more imitation. The reverse would seem to be true in female-dominated cultures.

Reinforcement or Incentives Influence Modeling Behavior

In Bandura's theory, reinforcement is considered to be a facilitative, rather than the necessary, condition for imitation, because there are other variables that influence what observers do. His research shows that reinforcement is not required in social learning, although often self-evaluation and self-reinforcement are present.

Bandura maintains that reward and reinforcement explain only part of the behavior that is learned in social contexts. What actually happens, he explains, is that the observer first attends to the model's behavior, probably because he anticipates an eventual reward. As stimuli emanate from the model's behavior, the observer processes them through symbolic coding, cognitive organization, and rehearsal. In other words, the model's outcomes influence what observers do, not what they learn. ". . . reinforcement, as it has become better understood, has changed from a mechanical strengthener of conduct to an informative and motivating influence" (Bandura, 1974, p. 860).

Although Bandura emphasizes that response consequences, vicarious or direct, do not play a dominant role in the acquisition of novel responses, he assigns a central function to patterns of different behavioral tendencies. He describes research demonstrating that positive reinforcement in the form of verbal approval or material rewards will increase the frequency of children's aggressive responses. He delineates studies showing that reinforcement of one type of aggressive response may result in an increase in another type of aggressive response and that reinforcement of aggressive behavior in one setting can generalize into other situations.

Whereas Bandura suggests that additional research is needed to explore the conditions under which imitation occurs in the absence of specific reinforcement, a question concerning his aggression studies could be raised at this point: What is there about aggression that makes faithful imitative behavior easy to elicit, regardless of the presence or absence of reinforcement? Of course, societal sanction is his answer, but that does not seem to fully account for the root of the cause.

Basically, there is little in Bandura's position to which White would not conform. The variance, however, resides in what constitutes reinforcement and in the purposes of its administration. While to Bandura response consequences come in material and affective forms, White highlights the affective-spiritual ministrations, such as "Smile, parents; smile, teachers. If your heart is sad, let not your face reveal the fact. Let the sunshine from a loving, grateful heart light up the countenance" (1882a, p. 178).

Whereas to Bandura incentive for performance and maintenance

of attention to the model are the rationales for reinforcement, to White it is encouragement, lightening of the load, uplifting, and diffusion of Christian joy. Simply stated, White's concept of reinforcement is service for others made concrete through a love relationship in daily living between model and observer.

Concept of Man

In Bandura's concept of man, human nature is a tremendous potential which can be shaped and changed by direct and vicarious experience into different life styles within the range of biological boundaries. Man is not a passive helpless organism acted on and controlled in a simple way by environmental circumstances. Rather, he is a system which interacts reciprocally with the environment. Endowed with self-directing powers and an extraordinary capacity to use symbols in representing experience, man is continually scanning the world for information that is then internally organized and symbolically coded.

This information derives largely from his observation of other human beings and the consequences of their responses for them. With the examples of others serving as the basis for his conduct, man weighs the outcomes to himself against those accruing to others for similar behavior. He does things which give him self-satisfaction and worth, and refrains from behavior that evokes self-punishment (Bandura, 1974). In brief, man, the active organism, is not a powerless object controlled by environmental forces nor a free agent who can become whatever he chooses. Both he and his environment are reciprocal determinants of each other.

Both Bandura and White assign a central position to the nature of man in their framework. Both see such a philosophical base as crucial in their conceptualizations. They differ, however, on the source of their orientation, its scope, and its goals. Disparities also exist on the role of rationality and volition in determining human behavior.

Bandura's conceptions of man emanate from social learning perspectives, while White's reveal the Judeo-Christian heritage as anchored to Biblical views. Although Bandura identifies man's characteristics in relation to his future behavior, he does not explain why or how human nature came to be like it is. His description simply provides a snapshot of what happens to the observer upon viewing a model.

Consistently Biblical, White's view of man is, in a sense, timeless--covering man from his origin to his present and then to his final destination. Her emphasis is on the Creator revealing a picture of man and his role in the world, not on man studying man. Centered in God, the concept is concerned with God-and-man relationship as well as that of man-and-man.

Bandura (1977) well represents the sociopsychological model of man which posits knowledge of human nature as an essential guide for coordinating facts obtained from scientific evidence and for designing further research. By contrast, White (1903) views such an understanding in relation to the paramount aim of education--the reproduction of God's character in man.

Both proponents perceive man with the power of choice and freedom. Bandura presents him reasoning and deciding in favor

of utilitarian and egocentric ends. Man can be heard asking: Will this behavior satisfy me? Will it reinforce my personal standard? Is it sanctioned by legitimate authority? At this point of assessment one is tempted to conclude that man in this structure appears to be hedonistic, almost devoid of conscience, and his behavioral norm is societal relativism.

From White's standpoint man is not a robot whose behavior is determined by the nature of his mechanism and by signals coming from beyond himself. Neither is he a pilot who is capable, by himself, of charting his own course safely. The ideal set forth for him surpasses self-actualization and social conformity. God has given him the model--Christ's character as revealed in the Bible and expressed in the Ten Commandments (White, 1913). By these absolute values man should measure himself. A preference for and obedience to these mean true happiness and freedom, not only in this earth, but more importantly, in the world without end. Ignoring these guidelines means slavery to the root of dissocial behavior, sin, and its ultimate consequences.

Scope and Treatment of the Subject

Bandura's formulations on modeling establish the primacy of sociopsychological influences in the strategy. Man's social relationship to man, its implications for his social functioning, and the pervasiveness of its effects are liberally strewn throughout his discussions.

Generally centering on automatic processes, his treatise sounds a sharp emphasis on learning considerations. From a wide

array of research and his own experiments he has drawn empirical data sustaining the theory that human thought, affect, and behavior are markedly influenced by the power of socially mediated experiences. It is particularly noticeable, however, that most of the behavior imitated in his experiments was highly dramatic and novel. One is persuaded to ask whether the internalization of drama and novelty alone can serve to account for the acquisition of behavior, especially of morality.

White seeks to present an understanding of man and his relation to the world in which he lives. However, her main target is the glory of God and the redemption of man. Consequently, her works on the subject are more deeply spiritual than anything else, and every aspect of personal example she translates in the light of eternal verities.

The variance between the two proponents apparently stems from the underpinnings of their conceptualizations. Bandura's structure is built on social learning perspectives; White's stands on the Biblical foundation. Whereas Bandura's framework is largely sociopsychological, it cannot be denied that White's Biblically premised presentation also includes some very profound human psychology.

Especially concerned about the observer, Bandura's conceptualizations point up his principal interest--the horizontal man-to-man dimensions of example. On the other hand, White's all-absorbing theme is not only the horizontal but, more importantly, the vertical God-to-man extension of behavior. That a successful and positive horizontal relation is dependent upon the right vertical connection

is a repetitive refrain in her philosophy. The model and the observer are each responsible for their modeling and viewing behaviors. Because of this accountability aspect, White's modeling concept involves every man of every age.

Bandura's analysis of modeling processes is certainly an ingenious contribution to socialization and personality development. His treatment does not appear to be concerned, however, about the negative and positive components of the strategy, although references to aggression are plenteous. But even this conduct is simply described from the standpoint of its acquisition and observer effects. White, by contrast, is direct and succinct in defining the moral limits of each type of example. Here again, it is reasonable to assume that their understanding of human nature colors their approach.

As has been pointed out, Bandura underscores the initial phase of behavioral acquisition. Man observes, processes, organizes, symbolically codes, and rehearses what he sees. Presumably he learns from the consequences he observes in the behavior of others. What happens later is not dealt with in this theory. The present is what matters. The here and now is the crucial time.

To White, the power of example involves man's yesterday, today, and tomorrow. It embraces the here and the hereafter. Man's total personality comes into play on the illimitable span of time. His responses as an observer and his behavior as a model have continuing and enduring imprints.

Despite the fact that Bandura's approach describes and employs fairly specific techniques, his theory seemingly consciously

avoids clear prescriptions of the emulation-worthy type of model and the steps towards being such a model. Although it offers hope to disruptive behavior and fearlessly decries television violence, it falls short of explicating the ideal for exemplification and the process leading to that goal.

This curious de-emphasis apparently exists because Bandura views the observer as capable of choosing that which is for his maximum benefit. This gap, nevertheless, leaves for the thoughtful and earnest reader unanswered questions such as: What is the source of behavioral norms in the face of adult consistencies and the denigration of values in symbolic models? How does one sift the wheat from the chaff in the mass media? Or discriminate the gold from the dross among subcultural models? One might also wish that the modeling proponent had given more space to a discussion of why children do so much better in language imitation than adults, how blind children learn if imitation is dependent on the ability to observe another person's behavior, and how people learn to think if much learning is by observation.

Yet Bandura's seeming inadequacy in handling these questions of social facilitation should be understood in the light of his basic orientation. Relying heavily upon the sociopsychological explanation of human nature, Bandura invariably affirms the capacity of man and the priority of his relationship to his fellow men. It could be another way of saying that a total integration of all the vital aspects of modeling is beyond the capabilities of one person. Ignoring them does not imply that they are less crucial, but they are relinquished to keep the discussion within definable bounds.

White does not define her terms nor explain all the processes of personal example despite the broad dimensional quality of her work. Instead, she illustrates to make concrete the abstract and asserts her beliefs and what she claims to have been divinely revealed to her on the subject. Because her presentation cannot be divorced from the history of man, it has to be viewed in its entirety, not in conceptual fragments. Starting out with man in his majestic and perfect state, she follows him to the pit of hopelessness and impotence, then to his confrontation with accountability. This situation of despair is aggravated by man's realization that he cannot rise to the heights of self-fulfillment, much less be a faultless model by his own strivings and resolving.

If White's treatment of the subject had ended at this point, it would have been a dismally bleak picture indeed. Fortunately, it does not. On the base with fallible models White erects a ladder and unveils its steps, the "how" of the self-actualization process, Christlikeness. Bidding the Christian to climb it to its topmost rung, she directs his gaze to the Perfect and Unfailing Exemplar. Consequently, it is bright with radiant optimism and magnificent hope. It is as though the curtain is about to be drawn, all the spotlights converge towards the center of the stage, and White declares, "This is the ULTIMATE in modeling." In this moment of splendor further questions on the subject sink into insignificance, for there is no dark corner. Even the observer is aglow. "They need not try to shine; if their hearts are enlightened by Christ," White (1898, p. 470) says of Christian participants in this act, "they cannot help shining." Neither is there any sense of inadequacy,

for once more in her own words she reaffirms that "a life centered in God is a life of completeness" (1903, p. 41).

Application to Education

In view of the discussion so far, it would seem rather obvious that modeling, whether from Bandura's view or White's, has a definite and relevant role in education. Both positions hold considerable promise in the teaching of skills, values, and attitudes.

Both proponents agree that parents, teachers, and other authority figures serve as models and reinforcing agents. Effective teacher behaviors coupled with wholesome peer modeling facilitate positive learning and performance. In addition White urges educators to establish themselves as Christlike models such that the atmosphere will be conducive to Christian character development.

Bandura and White are also in essential agreement on the potency of classroom resources which present a wide range of models. It is to be expected, however, that their criteria governing the choice of both real-life and symbolic models will be different. Social approval and personality growth are Bandura's priorities. White's pivotal principle is conformity to God's will as expressed in the life of Christ.

Besides its stimulating and immediate relevance to teaching and learning situations, Bandura's observational learning theory would be especially useful in childrearing and psychotherapy. Although White's philosophy may be broader in application in that it can apply to any life situation, it might be better appreciated in the building of Christian homes and character and in the education of

Christian men and women towards effective modeling in this world. It should be most pertinent to the development of Christian maturity not only for present living but also for the world to come.

TABLE 1.--Human beings are a source of meaningful stimuli that alter, direct, or maintain behavior

Bandura	White
Behavior is learned by observing the behavior of others.	Behavior is influenced by human examples.
Real-life models are the basic sources of modeling influences.	Both present and historical models shape human behavior.
Inappropriate modeling is the cause of dysfunctional behavior.	Man's broken relationship with his Creator is the root of all unchristian and maladaptive behavior.
Personal example is a determinant of social behavior.	Personal example is a crucial factor of man's eternal destiny.
Man can change his behavior and that of his fellow men.	Man, by himself, may modify the external. Only God can transform the internal.
Modification involves primarily the observable functioning of the human being.	Change is more than modification. It means transformation, renewal, or regeneration, and deals not only with the external but, most importantly, with the internal functioning of man.

TABLE 2.--Modeling is a potent means of transmitting or modifying behavioral repertoires

Modeling influences have tremendous multiplicative power.	Personal example is a power for good or for evil.

TABLE 2.--Continued

Modeling involves overt and covert behavior.	Results of modeled behavior are imperishable although not immediate.
Modeling is efficient, practical, facilitative, pervasive.	Modeling is inevitable, lasting, extensive, decisive.
Modeling is largely concerned with the conscious observable demonstration of behavior.	Modeling involves the unconscious and unstudied, as well as the conscious aspects of personality.
Modeling processes are construct-oriented and seemingly mechanical.	Modeling processes are presented in biographical language. Heavily spiritual.
Special focus is on what happens to the observer on viewing a model.	The model and the observer, their accountability, and their definite responsibilities are central.

TABLE 3.--The acquisition of modeled behavior involves different complex variables such as age, sex, cognitive ability, observer and model characteristics, and so forth

Bandura	White
Sociopsychological variables are involved in the modeling event.	The existence of various factors are recognized but unexpressed as variables per se.
Complexities of variables and paucity of research identifying them are admitted.	Complexities are taken for granted and accountability proportionate to controlling variables is stressed.
Variables are verified by experimental data.	Variables are explained through illustrations and biographical highlights.

TABLE 4.--The behavior of children appears to result from an interaction of parents' modeling and other sources of modeling cues in the environment

Bandura	White
Children are receptive and vulnerable to shaping influences of their immediate environement.	Children have sensitive, tender, and loving natures.
Parents, subcultural groups, and mass media transmit behavior and cultural values.	Parents, siblings, associates, other adults, and representational models influence children's character.
Parents establish conditions for learning and value acquisition of children in formative years.	Parents are responsible for their children's foundation of habit and character, and by their teaching and example decide their children's future destiny.

TABLE 5.--Symbolic and representational models are nearly equal to real-life models in effecting behavioral patterns

Bandura	White
Aggressive responses generalize to new settings after observer's exposure to aggressive film-mediated models.	Lawlessness and crime are outcomes of evil imagination generated by observer's exposure to demoralizing elements and scenes in printed page and theater.
Aggression stems from thought-arousal.	Sin is the result of dangerous thinking and aroused passions.
Aggression portrayed through symbolic models has injurious effects on behavior.	Effects of ill-chosen and questionable symbolic models are degenerating.
Television is of special concern in the discussion of symbolic models.	Particular focus is on the reading matter and recreation of her day .

TABLE 5.--Continued

More selective programming for the improvement of television modeling is suggested.	The Bible for the ultimate in virtue and character building is recommended.

TABLE 6.--Nurturant and warm adults elicit greater observational learning than those who are less accepting

Bandura	White
Imitation in children is facilitated and increased in an interaction with warm and responsive adults.	Children quickly learn in an atmosphere of love and warmth.
Imitative performance is impeded by distant and cold models.	Aloofness and unpleasant reactions displease and repel children.
Nurturance enhances effective imitation.	Love and courtesy are necessary for effective parental instruction and encouragement of children in the path of right.

TABLE 7.--The behavior of high-status and reward-dispensing models tends to be imitated more than that of models possessing relatively low vocational, intellectual, and social competencies

Bandura	White
Some models are more influential than others because of their resource-controlling power.	Certain individuals command more attention than others because of their leadership and responsibilities.

TABLE 7.--Continued

Power invites attention because it implies possibility of enjoying resources, and attention precedes imitation.	Bible life records illustrate accountability is proportionate to position and trust.

TABLE 8.--Observers who initially share common characteristics with a model are more inclined to imitate new responses displayed by the model

Bandura	White
People choose associates with similar values and conduct patterns to strengthen their self-reinforcement system.	Seeking companionship is natural for human beings, especially for the young.
People find it easier to identify with those whose behavior patterns are similar to theirs.	The link is a mysterious one binding hearts together and blending principles, tastes, and feelings.
Reference-group models are sources of attitudes and values which are imparted by example.	Resultant products of association are a mutual catching of the spirit and a copying of behavior, values, and attitudes.
	The power of associates on the developing character and mind of youth, and the necessity of vigilance in the choice of company are underscored.

TABLE 9.--Male models tend to be more imitated than female models

Bandura	White
The male sex is dominant in society, implies power, and consequently elicits more imitation.	Those who stand in the high places of success and honor are not unnoticed like those in the valley.
The male model's social position is inevitably linked to control and dispensing of rewards.	No demarcation line separates sexes on the issue of example. Every person, male or female, sheds an influence for good or for evil.

TABLE 10.--Reinforcement or incentives influence modeling behavior

Bandura	White
Reinforcement is a facilitative, informative, and motivating influence.	Reinforcement encourages, uplifts, lightens the load, and diffuses Christian joy.
Material rewards and verbal and social approval constitute reinforcement.	Reinforcement means affective and spiritual ministrations such as love, smiles, praise, thanksgiving, and prayer.
Maintenance of attention to model and incentive for performance are immediate aims of reinforcement.	Reflection of the divine character through loving service for others is the paramount goal of reinforcement.

TABLE 11.--Concept of man

Bandura	White
The nature of man is vital to modeling theory and further research in understanding man.	The nature of man and God's purpose for his life are crucial in the total work of education.

TABLE 11.--Continued

Human nature is a vast potential shaped by vicarious and direct experiences.	Man was created perfect, a unified whole with infinite potential for reflecting the Creator's image.
Man is endowed with self-directing and self-regulating capacities.	Man was originally endowed with noble powers, a well-balanced mind, perfect features, pure thoughts, and holy aims.
Man is not powerless nor completely free.	Man was created a free moral being, free to choose whom to serve, glorify, and obey.
Concept of man is based on social learning perspectives.	Concept of man is premised on what the Bible teaches.
The theory presents man trying to understand man.	The philosophy shows God revealing a picture of man.
The focus is on man-man relationship.	The focus is on God-man and man-man relationships.
A here-and-now snapshot view of man is given.	A timeless view of man is presented.
Man and environment mutually affect each other and determine behavior.	The forces of right and evil exist in every heart. Man is unable to resist evil without divine aid.
Power of choice and freedom are exercised toward functional and egocentric ends.	Power of choice and freedom should be exercised toward obedience to God and service for others.
Societal relativism is the behavioral norm.	God's law as demonstrated in Christ's life is the measure of absolute values and the standard of conduct.
Social acceptability and a developed personality are the ideals for man to reach.	The reproduction of the character of Christ in the life is the goal to be reached.

TABLE 12.--Scope and treatment of the subject of modeling

Bandura	White
Primacy of sociopsychological influences in observational learning is established.	The target is God's glory and man's redemption through understanding man and his relation to the world in which he lives.
Data are based on research and proponent's own experiments.	Assertions are drawn from Christ's life, divine revelation, and Bible biography.
Horizontal dimension is the thematic thread running through the treatise.	Vertical and horizontal dimensions are vital to the philosophy of example.
Discussion centers on automatic processes and learning considerations.	Discussion treats every aspect of personality in the light of eternal consequences.
Main focus is on the observer.	Every man of every age is both a model and an observer with accountability.
The initial phase of behavior acquisition is involved.	The total man at all times in all situations is involved.
A snapshot view of human functioning is provided.	Man is pictured from creation to redemption.
Proponent decries aggression and television violence.	Proponent specifies negative and positive components of example.
Proponent leaves out the "how" and "who" of positive modeling.	Proponent details steps toward sanctified modeling and presents the Perfect Example.
Theory offers hope to disruptive behavior.	Philosophy shows way to Christian maturity and world without end.

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TABLE 13.--Application to education

Bandura	White
Modeling is especially relevant to teaching and learning skills, social values and atittudes.	Modeling is particularly valuable in teaching and learning moral conduct, values, and attitudes.
Parents, teachers, and other authority figures serve as models and reinforcing agents.	Parents, teachers, and other authority figures are models and reinforcing agents. They should live what they teach.
Classroom resources are selected for social approval and personality development.	Controlling guideline in the selection of classroom symbolic models is harmony with God's revealed will.
Theory has generality across many teaching and learning situations, but is most applicable to childrearing and psychotherapy.	Philosophy is applicable to any life situation but should be better appreciated in Christian homes, Christian schools, and other Christian institutions.
Observational learning theory is a guide to understanding how learning develops from observing others.	This philosophy of example is a guide to Christian maturity for present living and for the next world.

General Summary

The comparison of Bandura's and White's modeling positions has been based on the ten concepts discussed in Bandura's writings and verified in his experimental studies. Both proponents have been found to be in virtual agreement on these concepts. However, they are worlds apart in their philosophic orientations on man and reality and in their approaches, purposes, and values. In the tables have been presented a visual image of the extent of the similarities and differences in the proponents' viewpoints.

CHAPTER IX

AN INTERVIEW WITH BANDURA

This chapter is a verbatim report of a telephone interview with Albert Bandura conducted by the author on May 9, 1977.* It represents an effort to obtain answers directly from the modeling proponent to questions generated by the present study. A number of the questions asked in the conversation have already been mentioned in chapters VI and VIII. Because of the nature of the interview, the question-answer format was felt to be appropriate.

QUESTION: Your latest work dealing with modeling is Social Learning Theory, am I right?

ANSWER: That's right, yeah.

QUESTION: Are you still doing experiments on modeling?

ANSWER: Yes, they deal with different aspects of modeling. We're still conducting experiments on how observational learning operates through cognitive processing of modeled information, and we're conducting experiments on applying modeling for therapeutic purposes. We're trying to study the mechanisms by which observing models perform fear activities reduces fear in observers.

The paper that was recently published in "Psych" Review** on self-efficacy is a social learning explanation of how different types of influences might work through a common cognitive mechanism to produce change, how the treatment can produce change

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*The researcher is indebted to Dr. Bandura for his willingness to give of his valuable time for this interview and for permission to use the taped record as part of the research paper. This report does not include the preliminaries of the conversation.

**The article is entitled "Self-efficacy: Toward a Unifying Theory of Behavioral Change," published in Psychological Review, March 1977, 84:191-214.

by instilling and increasing people's sense of personal effectiveness. Their self-efficacy determines their tried behavior, how much effort they expend, and how long they persist in the face of difficulty.

This theory seems to predict a degree of change regardless of whether it is produced through modeling or through just observation or through participant modeling and so on. So we're now extending this study to see whether or not this theory can predict or if the change is produced by still other or most of social influences.

QUESTION: That brings me to a point. If, as you say, learning is largely by imitating others, how is thinking learned when the cognitive process is not directly observed?

ANSWER: As in most studies involving cognitive processes, you can manipulate those and observe them indirectly. Let me first give you an example that doesn't involve modeling. If you want to study whether or not imagery might affect paired associate learning, you simply induce that process instructonally. You tell people to generate images that link two words in a compound image. You find that by experimentally creating conditions where people will use imagery in this way that real learning is greatly increased over and above the learning that would occur without the use of imagery.

In studying, let's say, symbolic coding in observational learning the assumption is that when people are exposed to modeled behavior, they have to transform the information to a changed--a modeled--pattern from motor activities in many cases to some kind of symbols of those activities. So modeling involves a symbolic transformation process.

In our study to demonstrate the importance of symbolic coding, we would devise rather complicated, modeled, patterned motor behavior. Complicated pattern is made up of eight components put together in a very novel pattern. Each of these components has a letter that a person can attach to them. What a person is learning is a pattern of letters from which the person can then extract the modeled behavior. So to study the process, although it's taking place internally, we simply have the observer verbalize what his coding activity is while observing the pattern.

That's why we can now measure the accuracy of the code and then relate the presence or absence of the code to the presence or absence of performance. In this case, what we're doing is--if we want to study cognitive rehearsal, we have subjects rehearse out loud.

In some of the studies that are currently being done on--let's say, modeling of problem-solving strategy, modeling of cognitive strategy, and so on--the procedure involves having the models exhibit the problem-solving behavior. At the same time the models verbalize aloud the kind of process or strategy the models are using in solving problems, what they're attending to, how they're organizing the information they have, how

they're deriving profitable solutions from the information, what they do when they encounter errors, and so on.

So--simply make public what ordinarily is a private activity and this gives you an indirect measure of what some of the cognitive activities might be.

QUESTION: In other words, it also starts with the observable, doesn't it?

ANSWER: Yeah, yeah.

QUESTION: Dr. Bandura, how do the blind learn, if much learning is by observation?

ANSWER: Well, in the case of Keller--what she learned was to match the kinesthetic responses of others. She just had to use a different modality, the sense of touch, in modeling the activity. Through touch a person can get some ideas on how to perform an activity. A person who is blind and deaf will have to use the touch modality as the matching mechanism.

QUESTION: As a teacher of English as a second language, I would like to know what you think must be the reason for the inadequate speech of many adults learning to speak English in spite of their excellent American speech models.

ANSWER: Well, I would guess that you have tremendous variations in the quality of speech of adult models. Certainly, in the case of middle class--upper middle-class models who have had grammatical education--the chances are that their speech is elaborate, accurate, and so on. But then when you get to the levels which haven't had that intensive instruction in grammatical speech, I would imagine that many of the adults don't speak that grammatically. Their verbal repertoires may be fairly impoverished. Then you have the influence of the quality of speech modeled on television. There's also a great deal of influence of speech modeling by peers.

These variations--social class, ethnic background, educational level, and so on--would affect the quality of speech.

QUESTION: What is the social learning explanation for the faithful imitation of aggression in spite of the absence of reinforcement?

ANSWER: Well, it's probably not in terms of the actual personal use of aggression. It's probably quite selective. There's one property of aggression that probably is unique to aggression--that it doesn't require reciprocity or cooperation on the part of the victim. If a child shoves another child and takes candy away, that doesn't require the victim to cooperate. All that it requires is for the aggressor to do it successfully.

So much of the reinforcement for aggression occurs in terms of the natural advantages or benefits that people derive for

being aggressive. They change rules, they get property and goods that they want, they change laws, so that they gain power and status. So the rewards for aggression don't have to be arbitrary ones, but there are special advantages if one can aggress--the amount of control one gets over social bounds and resources through such behavior. Other kinds of behavior actually require reciprocity on the part of the other person, so you can't gain much by that behavior unless the other person reciprocates.

QUESTION: Are you saying then that there's always some reward for aggression?

ANSWER: No, there isn't. It depends on how the society is structured because there are many societies in which aggression is devalued, is rarely modeled, and is not functional in any condition. But under highly individualistic, competitive societies where aggression is highly modeled and is taken as an index of manliness, it's an effective way of getting what you want, often a way of getting status, and so on. Then aggression has a lot of positive value.

Whereas in societies where it is not modeled and is devalued and where the users are punished, people don't aggress. It's not difficult to find cultures in which aggression rarely, if ever, occurs. So it depends on how the society is structured in terms of values and response to aggression.

QUESTION: In your experiments such as that on nurturance versus distance your conclusions were based on short interaction episodes. How would the results compare with those of more sustained and more complex relationships?

ANSWER: Well, the study that comes to mind is the one that Madsen did in which he had children treated in a very nurturant or cold way over an entire summer nursery school session. The teachers behaved in a nurturant or nonnurturant way with the nursery school children. Then the children observed these teachers on film, and he measured the extent to which they modeled the nurturant or nonnurturant behavior. This finding was very much the same as we got under the brief conditions. The nurturant models produced more imitative behavior than the nonnurturant models.

Then he carried the study one step further and then tested for the amount of learning, because that was just spontaneous reproduction of the modeled behavior. What he found was that nurturance facilitated performance of the modeled behavior, but both groups learned each behavior equally well. So you don't need nurturance for learning, but it probably facilitates using what you've learned.

Here again, one may want to qualify that. Where modeling plays an even greater role is in the selection of who you want to associate with. The children didn't have any choices of the adults to which they were exposed. But in real life we tend

to interact with or associate with people we like and people who are nice to us. To the extent that you associate with them, you'll obviously be learning their behavior. We don't learn the behavior of models who we reject and don't associate with. So nurturance plays a powerful role in the selection of the models we choose to interact with.

QUESTION: Some people say your theory is systematized common sense. What do you say about that?

ANSWER: Well, who cares whether a theory is systematized or not? The main thing is whether it has predictive value, whether it has explanatory value, and whether it generates procedures for effecting change either in the social or personal level.

I don't treat common sense as necessarily--that sounds like kind of elitist attitude in which common sense is downgraded. I have no quarrel with common sense.

My reaction is I don't care what it systematizes, but I'm more interested in the systematization than in the common sense part. And the criteria that I would use for a conceptual scheme is: Does it have explanatory power? Does it have predictive utility? And does it produce procedures for effecting social change? These are the criteria I use.

QUESTION: That's very enlightening. Now what do you consider as the highlight of your theory?

ANSWER: Well, I think if you look at the early theories of modeling, they pretty much assumed that people were just learning explicit responses that are modeled. They assumed that in order to learn by modeling you have to perform responses you're observing that got reinforced. Then they assumed that what you're learning is the exact response that the model is exhibiting.

I think observational learning theory departed substantially from that view by indicating that what people are learning are not the specific responses. Rather they are learning the rules that are reflected in those responses. So they could go way beyond the model. They were essentially learning the much more abstract property of the behavior rather than the exact specific responses. This, of course, greatly expanded the application of observational learning, because it now can account not only for social behavior but for more complex rule-governed behavior--whether it be language or judgment or conceptual behavior.

Then the theory puts considerable emphasis on symbolic processes that occur in observational learning and the notion that you don't have just templates of what you see but rather the complex--the cognitive processing that's involved in observational learning.

In the area of aggression, essentially social learning presents a quite different view from aggression either as a manifestation or instinct to a manifestation of frustration. The

work that I described recently in which we're conceptualizing social influences which are operating through the mechanism of self-efficacy is essentially recasting the whole area of behavior change in quite a different form.

QUESTION: Would you explain further the relation between social learning theory and observational learning theory?

ANSWER: Observational learning is one part of social learning theory because social learning theory is not only concerned with the mechanics by which one acquires behavior but also how one regulates behavior, how one maintains it over time, and so on. So social learning theory would be applied to a variety of processes of behavior acquisition, regulation of what you've already learned, and the maintenance of behavior over time. This multi-faceted process, the observation of behavior, is only one part of it.

QUESTION: From the standpoint of the observer, what do you see is the goal of modeling? Or are you concerned about goals in modeling?

ANSWER: I would say that some of the modeling is incidental in the sense that you observe patterns of behavior and you learn even though you might not have any intent to learn them. Then, of course, there's the condition in which someone wants to become a skilled surgeon. He obviously has a strong goal to observe closely the patterned behavior and the model surgeon, to pick up all the skills, and so on.

So I would say that modeling can occur under a variety of purposes ranging from incidental learning in which you really have no intent to learn that behavior at all (but if you observe it repeatedly, the chances are you learn a good deal of it) to the highly functional purpose that observational learning would serve. You actually have to attempt to master a given skill and simply draw on exemplary models to learn it as rapidly as possible.

QUESTION: How about from the standpoint of the model--what do you see is the standard to be reached?

ANSWER: There are many patterns of behavior that people model that they not only don't intend people to learn these, but they really don't want people to learn them. I imagine that this is a problem in childrearing where, you know, you get the do-as-I-say not as-I-do chatter. There have been many studies done where you study the discrepancies between what people preach and what they practice, and under many conditions people in possession of influence and power often behave in ways they don't want others to behave. So here would be an example in which not only does the model not want others to emulate the behavior but will do everything to discourage them to emulate it.

A parent might say, "I don't want you handling problems

the way I do" or "I don't want you to behave as I do," in spite of the fact that he's modeling it repeatedly.

Then there would be many conditions under which a person doesn't even know he's a model. People are behaving and others are emulating their behavior, but they don't even know who these others are, and there's no intent on their part to transmit to others their behavior.

Then you have the other case where people know that their whole justification and purpose is to provide a model for skilled behavior, as in most educational and training programs. People are hired to be good models. Their purpose is to teach others how to be good researchers, how to be good surgeons, how to be good soldiers, how to be good pilots.

QUESTION: Are you saying then that every person is a model in some way or another?

ANSWER: They can be, but whether or not doesn't depend on them. It depends on whether one wants to use the behavior that they exemplify.

QUESTION: In your works you've mentioned three transmitters of values. By what standards should the observer evaluate the values presented by these sources, especially in cases of inconsistency and contradiction?

ANSWER: This is where again modeling is not sort of a reflective process. What they have is conflicting information--what their families are telling them, what they see exemplified in the media, and what the immediate subculture might be valuing. I think what happens in the conflict is partly reconciled by the extent which one opts for one or the other of those influences.

In the studies which have been done with children from disadvantaged areas and backgrounds, the subjects end up in going to college. Here you have a pattern where the results show that obviously the parents in the home did not model college-oriented activities toward the interest of linguistic style or occupational behavior form. The findings show that usually at least one of the parents valued education, although they might not have the educated life style that would transmit all the interest patterns. And then a teacher often influences the child. Then the child takes a college-oriented peer group. That's where the child is getting most of the day-to-day influences--their developing interest, their plans, how they're spending their time after school, the subjects they are taking, and so on. So you have a very powerful peer subculture that's now socializing the child in the direction of going to college and might be supporting actually a pattern opposite to that of the larger subculture.

So here the question is: To which of these social influences does the child gravitate? Well, it turns out that if there's no one in the home that really values higher education, the child is

going to gravitate toward a college-oriented peer group.

What you then would look at is: What's the patterning of these multiple influences and how does the child reconcile them? It seems to me there are a lot of areas in which it's not so much a matter of conflict. There are values presented on television involving activities that are never involved in the household or in the subculture. And so the incipient setting might be modeling values about different things. So they're not all modeling values.

QUESTION: How about adults? Do you believe in any absolute norms for them to go by?

ANSWER: Well, yeah, you can probably generate absolute norms. But the thing that has interested me more is how people can have moral codes and norms, but that does not necessarily mean they serve as an invariant control of their behavior.

We've been reading very little study on what the relationship between moral judgment, moral principles, and moral conduct is. Now the position that social learning theory takes is that ordinarily one's moral system produces the self-evaluative reactions that influence conduct. But there are a number of mechanisms by which behavior can become dissociated or disengaged from moral code which then allows otherwise considerate humane people to behave in a very inhumane way. One of these mechanisms is moral justification of the behavior. People who would not engage in a homicide would be quite willing to kill under wartime condition because they're led to believe that killing is serving a high moral purpose.

Through diffusion and displacement of responsibilities a person feels as though he is only an agent of the activity. Then by misrepresenting or not accepting the effects of one's behavior, moral consequences don't get activated. People don't engage in self-censure when they don't know what effects their behavior produces. And then by attributing blame to those who are victimized or dehumanizing them, they activate their self-evaluation system.

Social learning theories are very much interested in studying the processes by which behavior in otherwise humane, moral people can be easily disengaged in addition to how they acquire these principles.

QUESTION: Do you see any role for the conscience in modeling?

ANSWER: Oh, yes--again I think social learning theory has a much more complex analysis of self-regulation. In the recent book Social Learning Theory I have a section on self-regulatory processes--on how people come to be really concerned with the role of internal control of behavior. Here, rather than dealing with the conscience as an overseer of behavior, we deal more with what are the standards of behavior people adopt. What kind of reactions do they generate if their behavior violates the standards? What are the mechanisms by which behavior can get

disengaged from the standard of the conscience? So it deals with a much more complex set of determinants and a much more complex process by which internal standards operate on one's behavior.

QUESTION: Dr. Bandura, do you mind saying what your religious affiliation is?

ANSWER: I don't have any religious affiliation. I probably have a moral code, but it wouldn't be particularly identified as a religious doctrine.

QUESTION: In what way has your moral code influenced your theory?

ANSWER: Not so much that it influences the theory, but it influences what you choose to study and what one can have a value system about--all the way society is structured in terms of a competitive or consumptive basis. You can have value systems about the type of societies they generate and whether or not they're advantageous--whether they add to the quality of life, detract from it, or increase or reduce the chances of survival.

And then you begin to address the conditions or life styles people live and the social consequences of the different life styles. So it probably influences the kind or problems you get interested in.

QUESTION: One more question, Dr. Bandura, if you don't mind. (Dr. Bandura says, "No, go ahead.") I wonder whether you've ever come across any of the works of a nineteenth-century writer by the name of Ellen G. White.

ANSWER: No, I haven't.

Thus ended the formal interview. This was followed by an expression of appreciation for the time granted, and Dr. Bandura offered to answer further questions as they might emerge.

CHAPTER X

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

This investigation sought to determine the commonalities and differences existing in the modeling concepts of Albert Bandura and Ellen White. Basic to this main purpose were the examination of behavior modification views through modeling procedures as conceptualized and experimentally tested by Bandura and the synthesis of White's viewpoints on the power of example. Two chapters--a brief history of behavior modification and the salient points of the proponents' biographies--provided the background for the problem and the subproblems.

Summary of Background Chapters

The development of behavior modification which belongs to the behaviorist school of learning theory is related to the philosophical and intellectual climate of the eighteenth century. Its origins and techniques can be traced to much earlier roots typified by such figures as Mesmer and Pinel. However, its formal beginnings in the first quarter of the century represented a procedure of environmental change to alter behavior. Pavlov, Sechenov, and Bekhterev of Russia and Thorndike, Watson, Guthrie, Hull, and Skinner of America may be considered the foundation theorists of behavior modification procedures.

Bandura and White are proponents of behavior change through

the power of example or modeling. They represent different eras and widely divergent cultural and intellectual backgrounds. Bandura, a psychology professor at Stanford, is a renowned psychologist-researcher, scholar, and author. In an extended series of studies he examined the conditions under which children imitate and acquire complex behavioral responses. Through his efforts many specific variables which promote or impede the tendency to imitate a model's behavior have been identified.

On the other hand, White, 1827-1915, held no diploma or degree. Nor did she occupy any professional role. However, she was a prolific writer, a powerful speaker, and a co-founder of an international church. Over a period of seven decades she wrote some sixty thousand pages of manuscript covering such subjects as education, health, science, and philosophy. Claiming that her messages were of divine origin, she wrote on every subject with a conscious certainty that her ideas were inspired and therefore of utmost importance.

Summary of Proponents' Modeling Concepts

To Bandura the modeling event is a source of information. When a person observes a model, he acquires cognitive representations of what he has seen in the form of imaginal and verbal symbols which are stored for subsequent retrieval and reproduction. The model's behavior and personal qualities can also influence the strength of the observer's inhibition against the witnessed action, and elicit previously learned responses.

From White's enormous literary production a philosophy of

modeling was synthesized. The power of example which involves the total personality is a talent bestowed by God to man for blessing other men. Every individual is both a model and an observer with definite responsibilities and accountability regarding the use of example. Through it man is to represent the character of Christ to the world. Human beings are only coping models at best, and only with divine aid can they be genuine positive models. The only Perfect Example is Christ.

Conclusions

Modeling has long been considered a potent, if not the most potent, learning process. The endless flow and accelerating pace of research evidence on the subject, and the results of the present study confirm its valuable role in the transmission and modification of individual and collective behavior.

The modeling positions of Bandura and White are based on entirely different frames of reference. They bring to their writings divergent approaches, purposes, and values and noncorresponding views of human nature and perceptions of reality. Significantly, in spite of these differences, Bandura's modeling concepts were found to corroborate the much earlier views of White. The modeling concepts on which the two proponents agree are recapitulated as follows:

1. Behavior is learned by observing the behavior of other human beings.

2. Real-life models are the basic sources of modeling influences.

3. Modeling is a potent means of behavior transmission or modification.

4. Modeling involves different complex variables originating in the observer and the model.

5. Words and deeds do not possess equal power for changing behavior.

6. Children's behavior results from an interaction of parental modeling and other models in the immediate environment.

7. Parents establish conditions for learning and value acquisition of children during the children's formative years.

8. Children are receptive and vulnerable to shaping influences in their environment.

9. Children's learning is facilitated and increased in a warm and supportive atmosphere.

10. Symbolic models are nearly equal to real-life models in effecting behavioral patterns.

11. Aggressive responses result from dangerous thoughts generated by exposure to aggressive symbolic models and generalize to new settings.

12. Some human models are more imitated than others because of their position, competencies, and responsibilities.

13. People choose as models associates with similar values and conduct patterns to themselves.

14. Reference-group models are sources of attitudes and values which are imparted by example.

15. Reinforcement is facilitative, motivating, response-strengthening, and informative.

Differences

The proponents were found to differ on the following viewpoints:

1. Bandura believes man can change the behavior of his fellow men. White agrees, but adds that such a change is only on the external. Only God, she insists, can transform the internal positively.

2. Bandura sees personal example a determinant of social behavior. White holds it is a crucial factor of man's eternal destiny.

3. Bandura argues that modeling is largely concerned with the conscious observable demonstration of behavior. White maintains it involves every conscious and unconscious aspect of personality.

4. Bandura stresses that power invites attention and imitation because it implies control of resources. White does not perceive power in this light. Instead, she focuses on accountability proportionate to one's position and trust.

5. Bandura suggests that male models elicit more imitation than female models. White asserts that every person, male or female, sheds an influence for good or for evil.

6. Bandura states that maintenance of attention to the model and incentive to performance are the immediate aims of reinforcement and are realized by means of material rewards and verbal approval. White underscores reflection of the divine character through loving service for others as the paramount goal of reinforcement.

7. Bandura contends that inappropriate modeling is the cause of deviant behavior. White affirms it is man's broken relationship with his Creator.

8. Bandura proposes social acceptability as the objective of

modeling. White advocates the representation of Christ's character in the life as the ultimate goal.

Scope, Treatment, Educational Application

A comparison of the proponents' scope and treatment of the subject of modeling and its application to education yielded the following outcomes:

1. Bandura emphasizes the horizontal dimension, dramatic and novel behaviors, and the primacy of sociopsychological influences. White dwells on the vertical and horizontal relationships, spiritual priorities, and the day-to-day situations of life.

2. Bandura's data are based on formal learning, scientific training, and experimentation. White's assertions are drawn from Christ's life, divine revelation, and Bible biographies.

3. Bandura's theoretical framework centers on automatic processes and learning considerations. White treats every aspect of the personality in the light of eternal consequences.

4. Bandura's conceptualizations involve the initial phase of behavior acquisition. White's relate to the whole man at all times in all situations.

5. Bandura explicates aggression and television violence. White specifies the negative and positive components of example.

6. Bandura leaves out the "how" and "who" of positive modeling. White details steps towards sanctified modeling and presents the Perfect Model.

7. Bandura provides a snapshot view of human functioning. White portrays man from creation to redemption.

8. Bandura's modeling perspective is especially relevant to the teaching of skills, social and cultural values and attitudes. White's is particularly valuable in teaching moral values, attitudes, and conduct.

9. Bandura points out that parents, teachers, and other authority figures are models and reinforcing agents. White sustains this position and, in addition, urges these individuals to live what they teach and provide a climate where Christlike behavior can develop.

10. Bandura infers that classroom resources should be selected for social approval and personality development. White advocates conformity to God's will as revealed in His Word as the controlling guideline.

11. Bandura's modeling concepts are generally applicable to many teaching and learning situations, childrearing, and psychotherapy. White's are relevant to any life circumstance but are better appreciated in Christian homes, Christian schools, and other Christian institutions.

12. Bandura's formulations are a guide to understanding how human learning develops from observing the behavior of others. White's provide direction toward Christian maturity for present living and for the world to come.

Implications

The determination of the proponents' conceptual similarities and differences brought out the following implications for the home, for the school, for media sources, and for the Seventh-day Adventist Church, and provided ideas for further studies.

For the Home

1. Parents influence the behavior of their children by their daily example, how they treat each other, and their manner of reinforcement. With two parents to model and administer reward or punishment, many kinds of learning problems and behavioral patterns are presented to children.

2. Parents who assault their children for aggression with the intention of "stamping out" the aggression may actually be teaching the child how to aggress.

3. Children learn their sex roles by parental example. Divorce would appear to leave a modeling vacuum in the home in addition to stressful confusion.

4. Attitudes and values may be the most psychologically significant things children learn in the home from their parents' example. Consistency between precept and example and a steady flow of love and warmth facilitate children's early internalization of moral standards.

5. Parents should surround their children with wholesome influences and tactfully exercise vigilance over their association.

6. Parents should be what they expect their children to become and should treat their children the way they want them to treat others.

For the School

1. The school should select a balanced faculty--a variety of personalities to serve as models for the range of children. This faculty should also include people who exemplify various social roles.

2. An important consideration is the assessment of the effectiveness of the teachers and the instructional materials, two vital aspects of the school program in providing exemplary models.

3. Reading material requires continuous examination in terms of the attitudes and values presented and the aims of education supported.

4. Teachers serve as models for students whether or not they choose to do so. They can teach most effectively or do great harm without even uttering a word.

5. Teachers who confine themselves to the academic and informational phases of their work limit their influence among the students and set themselves up as models of a circumscribed and lopsided life style.

6. Teachers who work or interact with their students outside the classroom widen the sphere of their influence and, by their example, impart values and attitudes.

7. Teachers are models for self-regulation in the classroom. The teacher who scolds and screams sets the stage for learning impulsive behavior.

8. Prosocial and learning-promoting behaviors can be enhanced by arranging for imitation of target behaviors to be directly rewarding for children.

9. Courtesy and concern for the child's personality at all times, even when he is uncooperative, enhance positive modeling effects.

10. The use of positive reinforcement and exemplary peer modeling can initiate and maintain desirable classroom behaviors.

11. Teachers must strive to be what they want their students to be.

For Media Sources

1. Parents and teachers should exercise judicious control of children's reading and of the television models which children observe. Families should take direct steps to evaluate critically and regulate television viewing in their homes. Careful screening of programs produced by this ubiquitous medium cannot be over-emphasized.

2. Television programs can portray positive attitudes and behavior as well as injurious conduct. They should provide more experiences to cultivate positive potentialities in developing children.

3. Some sort of stable and credible interpreter of life should be available to children in the presence of mass media situations portrayed in their many contradictory, unrealistic, and dehumanizing aspects.

4. An experiential knowledge of God's love provides the best inner resources to positively influence people's reading and viewing behaviors.

For the Seventh-day Adventist Church

1. Committed and consistent Christian living is the most powerful argument for the truth of the gospel.

2. The behavior of church leaders and church members can stimulate and guide adolescent attitudes of religion and Christianity.

3. Provision for a wide range of positive Christian models in

every useful aspect of life is imperative in order to meet the varied needs of children and youth.

4. The positive "anticipatory consequences" such as heaven, unity, and so on can become important self-regulatory contingencies for people in the community and in the world through the exemplary behavior of church leaders and members.

For Further Studies

While this investigation underscores the significance of modeling concepts common to Bandura and White, it also indicates a direction for further studies concerning:

1. Adolescents' choices of their chief models and the reasons for their selection. It would be interesting to compare the personal heroes of Seventh-day Adventist teen-agers with those of the 14,000 junior and senior high-school students polled by Scholastic Magazines, Inc.*

2. The variables that separate verbal exhortation from behavioral example, preaching from practice. To date there appears to be no studies as yet explaining why deeds are more influential than words in changing behavior.

3. The broader implications of using prosocial models in natural settings to provide constructive direction to help solve social problems.

4. Other principles from Ellen White's works relevant to other

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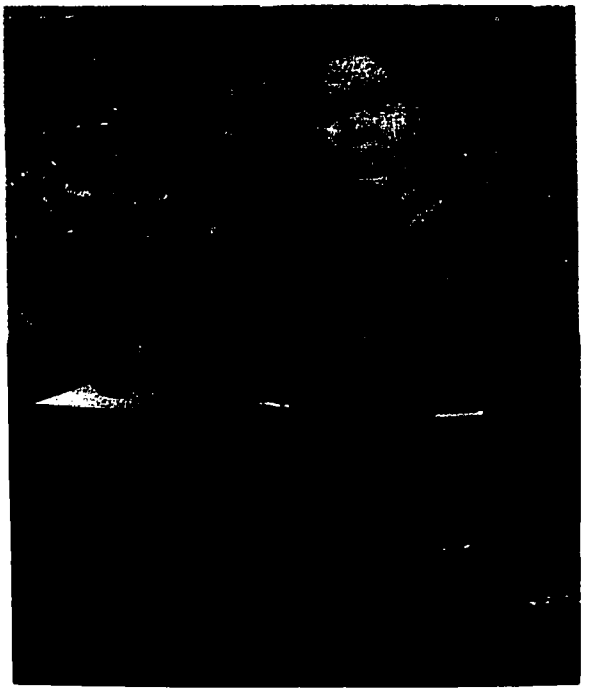
*Their No. 1 personal hero: Farrah Fawcett-Majors. Only one national leader made the Top 20--the U.S. President, Jimmy Carter, in 16th place. Cited in "The Farrah Phenomenon," TV Guide, May 21, 1977, 25:24-28.

aspects of educational psychology--such as teaching methods, mental health, discipline--which could be compared with present-day theories.

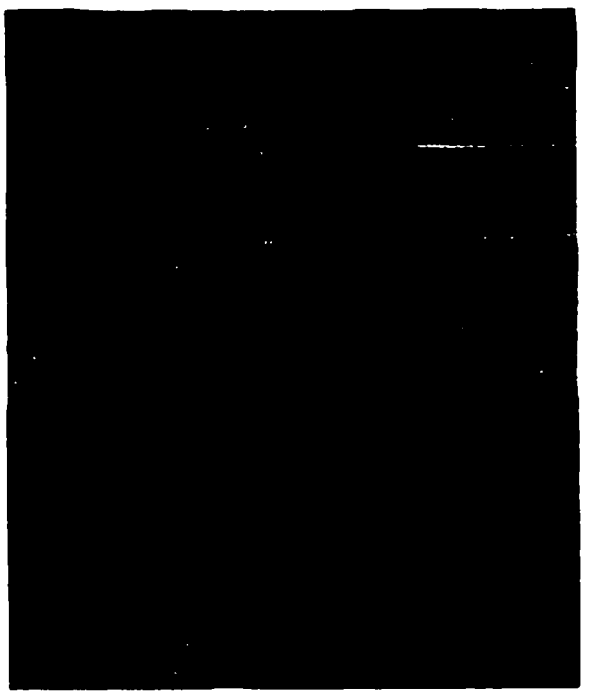
Summary

This final chapter brought together the resumes of the background material and the modeling viewpoints of Albert Bandura and Ellen White. The conclusions and the implications of the study followed. In a general assessment of the contribution Bandura and White have made to the understanding of human behavior, it seems reasonable to make this conclusion: When concepts propounded over a hundred years ago are validated by recent research, these concepts are not only sound but also relevant to present-day education. Therefore, they deserve the consideration of everyone involved in the improvement of human behavior.

APPENDIX



Ellen G. White
(1827-1915)



Albert Bandura
(1925-)

Andrews University Berrien Springs, Michigan 49104 (616) 471-7771

School of Graduate Studies

March 31, 1976

Dr. Albert Bandura
Professor, Department of Psychology
Stanford University
Stanford, California 94305

Dear Dr. Bandura:

I have chosen to do my dissertation in the area of behavior modification, particularly in respect to your extremely stimulating concept of modeling.

Along with the dissertation I would like to give my readers some hint of how a university professor got around to the penetrating research and psychological concerns so evident in your work.

How, when, or where did you become so constructively aware of the importance of this strategy of behavior change? Did some out-of-the-ordinary psychologist-researcher start you speculating along this line some years ago? Was it your family background that set you off in this direction? Or did you just find yourself facing behavioral problems that you could not solve without the effective influences of modeling procedures?

Thank you very much for whatever background you may feel like letting me in on. I will also appreciate knowing whether you are giving any lecture in any part of the Midwest any time this year. I shall be glad to plan on attending such an important meeting.

Sincerely yours,

Miriam S. Tumangday

Miriam S. Tumangday
Doctoral Student

Ruth Murdoch

Ruth Murdoch, Ed. D.
Chairperson, Student's Doctoral Committee

STANFORD UNIVERSITY
STANFORD, CALIFORNIA 94305

DEPARTMENT OF PSYCHOLOGY

April 21, 1976

Ms. Miriam S. Tumangday
Department of Psychology
Andrews University
Berrien Springs, Michigan 49104

Dear Ms. Tumangday:

Thank you for your letter expressing interest in the development of my ideas about psychological principles. There is an interview in Human Behavior magazine (September, 1974) telling about my background, which will help answer your questions.

I do not have a trip to the Midwest scheduled. Good luck with your research.

Sincerely,

Albert Bandura

Albert Bandura
Professor

AB:jb

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